

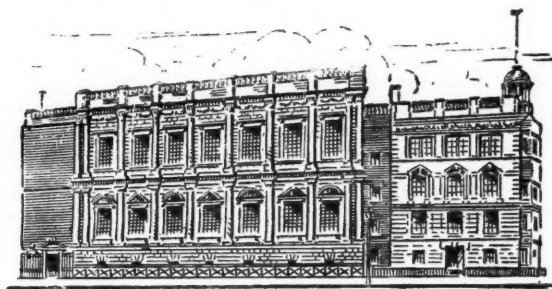
Vol. LXXIV.

MAY, 1929

No. 494



JOURNAL



Royal United Service Institution

WHITEHALL, LONDON, S.W. 1

ALL RIGHTS
RESERVED

PUBLISHED
QUARTERLY

Price Seven Shillings and Sixpence

Sole Advertising Contractors :

Gale & Polden, Ltd., 2, Amen Corner E.C.4. Telephone : Central 0397.



Write for our Book-
let—the contents will
convince you.

Home on leave? THE AGENCY FOR THE SERVICES

- We
- (1) Specialize in what you require.
 - (2) Have 200 to 250 cars always in stock.
 - (3) Supply any make of car with a written guarantee that it will be repurchased.
 - (4) Arrange terms to suit each individual case.

In addition, having large Show-rooms and Service Station in the West End of London, we can offer every facility combined with the best terms obtainable.

INDIAN & EASTERN CAR AGENCY, 39 Piccadilly, London, W. 1
Associated with The Car Mart, Ltd., 46-50, Park Lane Directors: Lt.-Col. R. H. N. Baxter; Major E. T. T. Todd



By Appointment to the
Royal Household of Holland

"Z.H.B." Lager

*The ideal beverage. Brewed from
finest Malt and Hops only.*

*For Samples and Terms
apply to—*

ZUID HOLLANDSCHE BIERBROUWERY (LONDON) LTD.
20-21 ST DUNSTON'S HILL, LONDON, E.C. 3

Telegrams: CYPRIDES, BILGATE, LONDON.

Telephone: ROYAL 6631.

BURMA SAUCE

EVERY DROP IS FULL OF FLAVOUR.

That is why "Burma" goes so far. You do not have to pour a lot on your food. Just a drop or two—that's all. Yet you get more **real** flavour from that little amount than you do from a large quantity of other sauce.

IT'S THE SAUCE THAT MAKES THE MEAL.

One's dinner may be well chosen, well cooked, and well served, yet lack that flavour which is so essential to a keen appetite and a good digestion. A few drops of luscious, fruity Burma Sauce gives the final perfecting touch.

WORTH TWICE WHAT IT COSTS YOU.

Burma Sauce gives all-round satisfaction. It is not only the most delicious Sauce you can buy, it is also the best value for your money—and it goes nearly twice as far as other sauces. Get a bottle to-day and make your meals more appetising—more delicious.

THERE ARE NO PRESERVATIVES IN BURMA SAUCE.

WHITE, COTTELL & CO., LONDON, S.E.5.

"The R.U.S.I. Journal" is published on the 15th day of February, May, August
and November of each year. GALE & POLDEN, LTD.,
Sole Advertisement Agents.

**"IT SHOWS WHAT CAN BE
DONE, GIVEN GOOD
INSTRUCTION."**

*Extract from letter of candidate
who gained 700 marks out of 800
in "Business Organisation" after
a course with*

**EXPERT COACHING
IN
BUSINESS ORGANISATION
AND POLITICAL ECONOMY**

**FOR
STAFF COLLEGE
ENTRANCE EXAM.**

IS PROVIDED BY

PITMAN'S CORRESPONDENCE COLLEGE

293 SOUTHAMPTON ROW. W.C.1

PROSPECTUS ON APPLICATION

CONTENTS FOR MAY, 1929.

	PAGE
SECRETARY'S NOTES	vii.
FRONTISPIECE: THE ROYAL NAVAL COLLEGE, GREENWICH	—
PRIZE ESSAY (NAVAL) FOR 1928	225
THE TRAINING OF THE REGIMENTAL OFFICER. (Lecture). By BRIGADIER B. D. FISHER, C.M.G., D.S.O., p.s.c., A.D.C.	241
A CHANNEL TUNNEL:—	
GENERAL AND ECONOMIC CONSIDERATIONS. By SIR ARCHIBALD HURD	262
SOME STRATEGICAL ASPECTS. By MAJOR-GENERAL SIR W. D. BIRD, K.B.E., C.B., C.M.G., D.S.O.	268
A NAVAL VIEW. By ADMIRAL SIR REGINALD H. S. BACON, K.C.B., K.C.V.O., D.S.O.	271
ITS RELATION TO AIR POWER. By AIR COMMODORE J. A. CHAMIER, C.B., C.M.G., D.S.O., O.B.E.	273
THE AIR MENACE TO GERMANY: GERMAN VIEWS	278
THE BOARD OF TRADE AND THE FIGHTING SERVICES. (Lecture). By E. J. FOLEY, Esq., C.B.	284
THE PROVOST SERVICES FROM 1809 TO THE PRESENT DAY. By CAPTAIN H. BULLOCK, F.R.Hist.S., I.A.	296
MORALE AND LEADERSHIP. By FLIGHT LIEUTENANT E. J. KINGSTON- MCCLOUGHRY, D.S.O., D.F.C., R.A.F.	305
FOCH. By BRIGADIER-GENERAL SIR J. E. EDMONDS, C.B., C.M.G.	311
PLATE 1. MARECHAL FOCH	facing page 316
PLATE 2. THE OXFORD UNIVERSITY AIR SQUADRON: A FORM- ATION FLIGHT	facing page 317
THE CADRE, AUXILIARY AIR FORCE AND UNIVERSITY AIR SQUADRONS. (Lecture.) By WING-COMMANDER A. G. R. GARROD, M.C., D.F.C., R.A.F.	317
THE SUBMARINE AND ITS ANTIDOTES TO-DAY. By LIEUTENANT-COM- MANDER D. E. G. WEMYSS, R.N.	331
RETROSPECT AND SUGGESTION. By MAJOR F. T. V. DUNNE	338

Continued on page 3.

NEW ZEALAND and the RETIRED OFFICER PROFITABLE FRUIT GROWING

Open, Free and Healthy Life. Best Sporting Ground in the World. Light and Remunerative Occupation. Join other successful Growers with a small Capital.

BUY A CITRUS PLANTATION AT MODERATE COST.

TERMS SPREAD OVER FOUR YEARS.

Plantations Adjacent to Main Road. Near Town, Railway and Sea.

**NO IRRIGATION. NO DROUGHTS. NO FROSTS. GOOD RAINFALL.
AVERAGE SUNSHINE EQUAL TO ITALY.**

EVERY EDUCATIONAL FACILITY FOR YOUR CHILDREN.

Fruit Growing under ideal climatic conditions in the Bay of Islands District, North Auckland. THE LAND OF PERPETUAL SUNSHINE. Fishing, Shooting, Hunting, Golf, Tennis and all Sport AT LOW COST.

Write for Booklet and Particulars to-day to—

New Zealand Citrus Plantations, Limited, New Zealand Building, 429, Strand, W.C.2

Phone—GERRARD 5982

ROYAL AIR FORCE DISPLAY

The Tenth Royal Air Force Display will be held
at Hendon, on

SATURDAY, JULY 13th, 1929



- | | | | |
|-------------------|---|----------------------------------------------|--------------|
| BOXES (to seat 6) | - | £7, £5, £4 (limited in number) | |
| ENCLOSURES | - | 10s., 5s. (& 2s. not bookable in advance) | |
| RESERVED SEATS | - | 3s. and 2s. 6d. in the | } additional |
| | | 10s. enclosure | |
| | | 2s. 6d. in the 5s. enclosures | |
| MOTOR CARS | - | 7s. 6d., 5s. (& 2s. not bookable in advance) | |

Tickets can be obtained from

THE DISPLAY SECRETARY R.A.F., Station, HENDON, N.W.9.

(Phone: HENDON 2823)

AND FROM THE USUAL AGENCIES

Reserved Seat Tickets only through Messrs. Keith Prowse & Co., Ltd., and Branches and all Theatre Ticket Agents.

The Display Supports Service Charities

FOUNDED 1887

THE SECRETARIAL AND BUSINESS TRAINING COLLEGE

DAY, RESIDENTIAL AND POSTAL

Prospectus, giving standard of qualification for the Diploma, which guarantees an appointment on completion of training, post free from Mr. B. J. MUNFORD,

KENSINGTON COLLEGE, Paddington, London, W. 2

CONTENTS—continued from page 1.

	PAGE
NAVAL EXERCISES IN THE MEDITERRANEAN, 1929. By COMMANDER TAPRELL DORLING, D.S.O., R.N.	345
ARMS AND THE MAP. By LIEUTENANT-COLONEL N. M. MCLEOD, D.S.O., R.E.	351
FISHERY PROTECTION SERVICE. By Paymaster Lieutenant-Commander J. HOGG, R.N.	357
REGIMENTAL JOURNALS. By MAJOR B. ST. JOHN	364
THE SAND TABLE. By COLONEL H. W. B. THORP, D.S.O., <i>p.s.c.</i>	368
FRENCH MEDICAL SERVICES IN THE GREAT WAR: A REVIEW. By FLEET SURGEON W. E. HOME, O.B.E., M.D., M.R.C.P.(Ed.), D.P.H., B.Sc.	370
THE RUSSO-POLISH WAR OF 1920: A REVIEW. By LIEUTENANT-COLONEL C. E. D. BRIDGE, D.S.O., M.C., <i>p.s.c.</i>	373
THE INTERNATIONAL SITUATION:—	
THE FREEDOM OF THE SEAS—	
BRITISH AND AMERICAN STANDPOINTS	376
A FRENCH VIEW	381
THE PREPARATORY DISARMAMENT COMMISSION—	
REDUCTION OF NAVIES	383
REDUCTION OF ARMIES	384
BRITISH CRUISER NEEDS	385
A DANGER SPOT TO EUROPE. By MAJOR E. W. POLSON NEWMAN, B.A., F.R.G.S.	386
ITALIAN ASPIRATIONS IN THE MEDITERRANEAN	390
AFGHANISTAN. By COLONEL H. ROWAN-ROBINSON, C.M.G., D.S.O.	392
CORRESPONDENCE	396
GENERAL SERVICE NOTES	402
NAVY NOTES	404
ARMY NOTES	418
AIR NOTES	432
AIRSHIP NOTES	438
REVIEWS AND NOTICES OF BOOKS	440
ADDITIONS TO THE LIBRARY	450
REPORT OF THE ANNUAL GENERAL MEETING	453

Preparatory School for 35 Boys (7½ to 14)

Red House, Marston Moor, York

Headmaster (since 1922), Lieut.-Colonel E. N. MOZLEY, D.S.O., R.E. (Ret.)

SPECIAL TERMS TO OFFICERS

Six Public School Scholarships gained since March, 1925,
including two "Firsts" and one "Second."

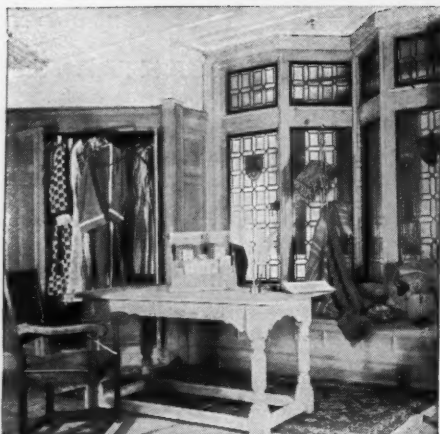
In Advanced Mathematics Five were First and One was Second.

Excellent Health Record. School Farm and Extensive Grounds.
Riding is a notable feature of school life, together with other special
outdoor interests. Many references can be given to officers whose sons
have been at Red House.

Prospectus on application.

Unique among the Men's Shops of the World

When in London you are invited to visit the New Austin Reed's. It is a building at once spacious and noble. It is the demonstration and justification of that new spirit which proves that in commerce and its memorable scene there is no longer anything small or mean or ugly or commonplace. It presents the realisation of an ideal



—a shop completely and entirely for men, planned and equipped in such novel fashion as men will approve.

AUSTIN REED'S

of REGENT STREET

107 to 113 Regent Street, London, W.1

Specialists in the Production of
MILITARY HISTORIES
WAR DIARIES
and all
Naval and Military
Requirements
Consult
GALE & POLDEN, LTD.
2 AMEN CORNER, LONDON, E.C.4

199 CLUB

To those requiring a Club with the atmosphere of a private house in the best position in Kensington, overlooking gardens, this club will be sure to appeal.

Residential terms from £3 3s.
Bridge daily from 3 to 12. Subscription to non-resident members £2 2s. per an.
Lessons and Practice Classes.

199, QUEEN'S GATE, S.W.7
Phone Kensington 6767. Garage accommodation

THE NATIONAL CITY COMPANY

HEAD OFFICE: 55, Wall Street, New York.

Investment Affiliate of
The National City Bank of New York.
Offices in over 50 Cities of the United States.



LONDON OFFICE: 34, Bishopsgate, E.C.2,
and at 11, Waterloo Place, S.W.1.

MANCHESTER REPRESENTATIVE:
Royal Mail House, 76, Cross Street.

AMSTERDAM: Heerengracht 258.

GENEVA OFFICE: 1, Rue Tour de l'Île.

SCANDINAVIAN REPRESENTATIVE:
16, Holmens Kanal, Copenhagen.

Montreal. Toronto. Ottawa. Quebec.

£1,200 is required every week for maintenance.

THE SHAFTESBURY HOMES & 'ARETHUSA' TRAINING SHIP

exists to give poor boys and girls a chance in life, and to help them to become useful men and women.

£36 will keep a Girl One Year in one of our Girls' Homes.

£40 will give a Boy a Year's Home and Training.

£75 will give a Boy a chance of One Year in the Training Ship "Arethusa."

FUNDS URGENTLY NEEDED

Patrons

Their Majesties the KING and QUEEN.

H.R.H. PRINCESS MARY (Viscountess Lascelles),

FIELD-MARSHAL H.R.H. THE DUKE OF CONNAUGHT.

President:

H.R.H. THE PRINCE OF WALES, K.G.

Chairman & Treas.: FRANCIS H. CLAYTON, Esq.

Deputy Chairman: LORD DABYNGTON.

Chairman "Arethusa" Committee:

HOWSON F. DEYITT, Esq.

Secretary: F. BRIAN PELLY, A.F.C.

164 SHAFTESBURY AVENUE, LONDON, W.C.2

When responding please mention "The Journal of the Royal United Service Institution."



ARMY PROMOTION EXAMINATION RESULTS

AT the last three half-yearly examinations (i.e., to March, 1928) Officers prepared by the Metropolitan Services College obtained no less than

1,800 SUCCESSES

in the subjects of the examinations for Promotion to the Ranks of

CAPTAIN AND MAJOR

At the October exam. for Promotion to the Rank of Major, an M.S.C. Student was awarded

ONE OF THE TWO SPECIAL CERTIFICATES

Write TO-DAY for a free copy of the descriptive "Guide to the Army Promotion Examinations."

**METROPOLITAN SERVICES
COLLEGE, Dept. M4, ST. ALBANS.**

SPECIMEN COPIES ON
REQUEST TO
CLUBS, MESSES, Etc.



PUBLISHED QUARTERLY:
JANUARY, APRIL,
JULY, OCTOBER.



The FIGHTING FORCES

A QUARTERLY MAGAZINE for THE ROYAL NAVY
THE ARMY and THE ROYAL AIR FORCE

Editor: Lieut. Col. R. M. RAYNSFORD, D.S.O.

Assistant Editors:

Sir Charles Petrie, Bart. Lieut.-Commander J. J. C. Irving, R.N.

SERVICE NOTES and ARTICLES, SPORT, TRAVEL,
MOTORING, FICTION, BOOK REVIEWS.

CONTAINING 170 PAGES FULLY ILLUSTRATED IN COLOUR AND MONOCHROME.
PRICE 5/- NET.. (POST FREE, 5/6.)

Obtainable from all Booksellers and Newsagents or direct from the Publishers

GALE & POLDEN, LTD., 2 AMEN CORNER, LONDON, E.C.4
WELLINGTON WORKS, ALDERSHOT NELSON HOUSE, PORTSMOUTH



Dr. BARNARDO'S HOMES

NEARLY 8,000 CHILDREN SUPPORTED.

Will you send

HALF - CROWN

to the **ANNUAL COLLECTION** of 400,000 Half-Crowns
for the **Children's Food ?**

Cheques, etc. payable "Dr. Barnardo's Homes Food Fund," crossed, addressed
Dr. Barnardo's Homes, 148 Barnardo House, Stepney Causeway, E. 1.

Carlisle & Gregson

5, Lexham Gardens, Kensington, W.8

STAFF COLLEGES, PROMOTION,

All SERVICE Entrance Examinations,

UNIVERSITIES and CIVIL SERVICE.

Telegraphic Address: "Lexjam, Kens, London."

Telephone: Western 1287.



N. A. A. F. I.

SERVES THE SERVICES

It belongs to them, is controlled by them, and aims at promoting their interests in every way.

THERE ARE NO SHAREHOLDERS

and all surplus revenue is returned to the Services in rebate, discount and other schemes for the benefit of the Services.

THE N.A.A.F.I. SUPPLIES EVERYTHING

but is strictly limited to dealing with Serving Members of the Regular Forces, their wives and families, and Territorials during Annual Training.

Headquarter Offices :

IMPERIAL COURT, UPPER KENNINGTON LANE, LONDON, S.E.11

Royal Soldiers Daughters' Home.



(Founded 1855).
Incorporated
1923

For the Maintenance, Clothing, and Education of Daughters of Soldiers, whether Orphans or not.

The children are trained for Domestic Service and in special cases for Trades.

Patrons: Their Majesties The King and Queen.
Vice-President: General The Right Hon. Sir Neville Lyttelton, G.C.B., G.C.V.O.

Vice-President and Chairman: Field-Marshal Lord Plumer, G.C.B., G.C.M.G., G.C.V.O., G.B.E.

Admission, between the ages of six and eleven years, by approval of the Committee. Age of departure, seventeen, when a situation is guaranteed to them and they are supplied with an outfit.

GENEROUS GIFTS, Annual Subscriptions and Donations urgently invited and thankfully received by the Secretary, Major H. S. Marshall, D.S.O., at the Home, 65, Roslyn Hill, Hampstead, N.W.3, or the Hon. Treasurer, Lloyds Bank, Ltd. (Cox's & King's Branch), 6, Pall Mall, S.W.1.

King Edward VII Convalescent Home

For Officers of the Navy,
Royal Marines, Army and
Air Force

MASSAGE. ALL FORMS OF
ELECTRICITY. ULTRA-VIOLET
RAYS. SPECIAL DIETING.

TERMS :

4/6 TO 6/- PER DAY
INCLUSIVE

Golf Course in the Grounds.
Hard Tennis Court. Bad-
minton. Squash Racquets.
Sailing, Bathing, etc., etc.,

Officers on the Active List
are eligible to travel by rail
at Government expense.

For Booklet apply :

House Governor, Osborne House,
East Cowes - Isle of Wight

BARCLAYS BANK

LIMITED.

Head Office: 54 Lombard Street, London, E.C.3
and over 1,950 Branches in England and Wales.

Chief Foreign Branch: 165 FENCHURCH STREET, LONDON, E.C.3.

FREDERICK CRAFTURD GOODENOUGH, *Chairman.*
SIR HERBERT HAMBLING, *Bart, Deputy-Chairman.*
WILLIAM FAVILL TUKE, *Vice-Chairman.*

General Managers;
EDWIN FISHER. HENRY THOMAS MITCHELL.
Foreign General Manager;'
WALTER OSBORNE STEVENSON.

Dr. BALANCE SHEET, 31st December, 1928. Cr.

LIABILITIES.		£	s.	d.	ASSETS.		£	s.	d.
Current, Deposit and other Accounts (including balance of Profit and Loss) ..		335,081,222	12	2	Cash in hand, and with the Bank of England ..		50,413,030	0	6
Acceptances and Endorsements, &c., for account of Customers ..		24,874,316	17	5	Balances with other British Banks and Cheques in course of collection ..		10,501,608	6	5
Capital, viz.—					Money at Call and Short Notice ..		23,988,400	0	0
£57,589 "A" Shares of £4 each fully paid		3,430,256	0	0	Bills Discounted ..		38,258,569	14	3
11,760,811 "B" Shares of £1 each, fully paid		11,760,811	0	0	Investments—				
667,050 "C" Shares of £1 each, fully paid		667,050	0	0	(Incl'd'g £641,380 6s. 0d. Securities lodged for Public Accounts)				
		15,858,217	0	0	Securities of, or guaranteed by, the British Government ..		54,521,242	15	11
Reserve Fund ..		10,250,000	0	0	British Dominions and Colonial Government Securities, Bank of England and British Corporation Stocks		1,639,740	7	4
					Other Investments (including fully paid Shares and 500,000 "B" Shares of £5 each; £1 per Share paid up in Barclays Bank (Dominion, Colonial and Overseas) ..		2,385,209	8	10
		£386,063,756	9	7			58,546,192	12	1
					The British Linen Bank—				
					£1,236,709 0s. 0d. Stock ..		3,710,127	0	0
					Union Bank of Manchester Limited—				
					300,000 Shares of £5 each, £2 10s. paid		1,650,000	0	0
					Advances to Customers and other Accounts ..		168,630,474	19	9
					Liability of Customers for Acceptances and Endorsements, &c. ..		24,874,316	17	5
					Bank Premises and Adjoining Properties		5,501,036	19	2
							£386,063,756	9	7

F. C. GOODENOUGH, *Chairman*
HERBERT HAMBLING, *Deputy-Chairman.*
W. FAVILL TUKE, *Vice-Chairman.*
E. FISHER
H. T. MITCHELL } *General Managers.*

J. H. BECKWITH, } *Joint*
C. D. CARRUTHERS } *Chief Accountants.*
W. N. SEELEY, *Secretary.*

AUDITORS' REPORT TO THE SHAREHOLDERS.

We have compared the above Balance Sheet with the balances on the Books at the Head Office, and with the detailed Returns from the Branches. We have verified the Cash with the Bank of England, the Cash and Bills at the Head Office, the Investments of the Bank and the Securities held against Money at Call and Short Notice. We have obtained all the information and explanations we have required, and we are of opinion that the above Balance Sheet is properly drawn up so as to exhibit a true and correct view of the state of the Bank's affairs according to the best of our information and the explanations given to us and as shown by the Books and Returns of the Bank.

London, 7th January, 1929.

PRICE, WATERHOUSE & Co.,
KEMP, CHATTERIS, NICHOLS, SENDELL & Co., } *Auditors.*

Sir !

Doubtless you have interests in some Company or other dividend-earning concerns that rely to a great extent on well-conceived publicity for the creation of "sales."

Have you ever considered the wide and wonderful circulation that every copy of "The Journal of the Royal United Service Institution" gets ?

You are in a position to appreciate, better than anybody, the tremendous pull of a Magazine of such standing. Here, therefore, is a medium of proved value. Its advertisement pages command attention again and again.

Why not try it for the business you are interested in ?

Rates, specimens and positions available from

ADVERTISEMENT MANAGER.

"THE JOURNAL OF THE ROYAL UNITED SERVICE INSTITUTION"
(Central 0397)

2, AMEN CORNER, LONDON, E.C. 4



Military Jewellery



18-carat Gold Links, with any regimental colours in flush enamel.
Per Pair £4.5.0



Gold and Enamel Brooch with Rose Diamonds set in Platinum.
£9.10.0

Estimates for Brooches, Links, etc., introducing any regimental badge, prepared without charge.

The
**Goldsmiths
& Silversmiths
Company Ltd.**

ONLY ADDRESS

**112, Regent Street,
London, W.1.**
(Corner of Glasshouse Street)

PALL MALL DEPOSIT AND FORWARDING CO. LTD.

Carlton Street, Lower Regent Street

(FIFTY YARDS FROM PICCADILLY CIRCUS, S.W. 1)

Telephone: GERRARD 4546

Cables: BURNISHED, LONDON

BAGGAGE STORED

*In the centre of West End, near all
the Service Clubs and principal Hotels*

Access to baggage available during office
hours without notice. Accommodation for
unpacking and repacking kit free of charge.

REDUCED RATES FOR MEMBERS OF H.M. SERVICES

Perfect Satisfaction:

**A Pipe and
PLAYER'S**

NAVY CUT TOBACCO

**Nothing more
Nothing less**



NCT356

JOURNAL
of the
Royal United Service
Institution

Published by Authority of the Council.



Postal Address: Whitehall, London, S.W.1

Telephone No. Victoria 0654.

Telegraphic Address: "Russatus, Parl, London."

Vol. LXXIV.

MAY, 1929.

No. 494.

Sole Advertising Contractors:

Gale & Polden, Ltd., 2, Amen Corner, E.C.4. Telephone: Central 0397.

ROYAL UNITED SERVICE INSTITUTION

FOR

"THE PROMOTION AND ADVANCEMENT OF NAVAL AND MILITARY SCIENCE
AND LITERATURE."

Royal Charter, 22nd February, 1860 (23 Vict.).

PATRON :

H.M. KING GEORGE V.

VICE-PATRON :

H.R.H. The PRINCE OF WALES, K.G., K.T., K.P., G.C.S.I., G.C.M.G.
G.C.I.E., G.C.V.O., G.B.E., M.C.

PRESIDENT :

Field-Marshal H.R.H. The DUKE OF CONNAUGHT, K.G., K.T., K.P., G.C.B.,
G.C.S.I., G.C.M.G., G.C.I.E., G.C.V.O., G.B.E., V.D.

VICE-PRESIDENTS :

Field-Marshal The *Viscount* ALLENBY, G.C.B., G.C.M.G., D.C.L., LL.D.

General The *Lord* HORNE, G.C.B., K.C.M.G., D.C.L., LL.D.

Admiral of the Fleet The *Earl* JELlicoe, G.C.B., O.M., G.C.V.O., LL.D.

Lieut.-Colonel *Sir* ARTHUR LEETHAM, Knt., K.C.V.O., C.M.G., F.S.A.

Field-Marshal *Sir* W. R. ROBERTSON, Bart., G.C.B., G.C.M.G., K.C.V.O.,
D.S.O., D.C.L., LL.D.

Admiral *Sir* R. G. O. TUPPER, G.B.E., K.C.B., C.V.O.

ELECTED MEMBERS OF COUNCIL :

Royal Navy.

Rear-Admiral E. A. ASTLEY-RUSTON, C.B., C.M.G.

Admiral *Sir* W. E. GOODENOUGH, K.C.B., M.V.O.

Admiral *Sir* GEORGE P. W. HOPE, K.C.B., K.C.M.G. (Chairman of the Council).

Rear-Admiral W. M. JAMES, C.B., R.N.

Royal Marines.

Brigadier A. G. LITTLE, C.M.G., R.M., A.D.C.

Royal Naval Reserve.

Captain *Sir* D. WILSON-BARKER, Knt., R.D., R.N.R.

Royal Naval Volunteer Reserve.

Captain The *Earl* HOWE, C.B.E., V.D., M.P., R.N.V.R.

Regular Army.

Lieut.-General *Sir* W. HASTINGS ANDERSON, K.C.B.

General *Sir* J. F. NOEL BIRCH, G.B.E., K.C.B., K.C.M.G.

Lieut.-General *Sir* DAVID G. M. CAMPBELL, K.C.B.

Major-General *Sir* JOHN E. CAPPER, K.C.B., K.C.V.O.

Colonel C. H. COLVIN, C.B., D.S.O.

Major-General P. G. GRANT, C.B., C.M.G.

Lieut.-Colonel A. F. A. N. THORNE, C.M.G., D.S.O.

Militia.

Colonel Lord AMPHILL, G.C.S.I., G.C.I.E.

Territorial Army.

Colonel A. S. BATES, D.S.O., T.D.

Brig.-General *The Earl of* LUCAN, K.B.E., C.B., T.D.

Colonel *The Duke of* NORTHUMBERLAND, K.G., C.B.E., M.V.O.

Colonel C. W. TROTTER, C.B., T.D.

Indian Army.

Field-Marshal Sir CLAUD W. JACOB, G.C.B., K.C.S.I., K.C.M.G. (Vice-Chairman of the Council).

Royal Air Force.

Air Vice-Marshal Sir VYELL VYVYAN, K.C.B., D.S.O.

REPRESENTATIVE MEMBERS.

ADMIRALTY.

Director of Naval Intelligence : Rear-Admiral B. E. DOMVILLE, C.B., C.M.G.

WAR OFFICE.

Director of Staff Duties : Major-General C. BONHAM-CARTER, C.B., C.M.G., D.S.O.

AIR MINISTRY.

Deputy Chief of the Air Staff : Air Commodore C. L. N. NEWALL, C.M.G., C.B.E., A.M.

EX-OFFICIO MEMBERS.

First Sea Lord : Admiral of the Fleet Sir CHARLES E. MADDEN, Bart., G.C.B., G.C.V.O., K.C.M.G., LL.D.

Chief of the Imperial General Staff : Field-Marshal Sir GEORGE F. MILNE, G.C.B., G.C.M.G., D.S.O.

Chief of the Air Staff : Marshal of the Royal Air Force Sir HUGH M. TRENCHARD, Bart., G.C.B., D.S.O.

Director-General of the Territorial Army : Lieut.-General Sir REGINALD B. STEPHENS, K.C.B., C.M.G.

President of the Royal Naval College, Greenwich : Vice-Admiral W. H. D. BOYLE, C.B.

Commandant of the Imperial Defence College : Major-General W. H. BARTHOLOMEW, C.B., C.M.G., D.S.O.

Director of the Royal Naval Staff College : Rear-Admiral C. J. C. LITTLE, C.B., R.N.

Commandant of the Staff College, Camberley : Major-General C. W. GWYNN, C.B., C.M.G., D.S.O.

Commandant of the R.A.F. Staff College, Andover : Air-Commodore E. R. LUDLOW-HEWITT, C.M.G., D.S.O., M.C.

HONORARY MEMBERS OF THE COUNCIL.

General Sir A. W. CURRIE, G.C.M.G., K.C.B. (Canada).

Lieut.-General Sir J. MONASH, G.C.M.G., K.C.B., V.D. (Australia).

Major-General Sir A. H. RUSSELL, K.C.B., K.C.M.G. (New Zealand).

General *The Right Hon.* J. C. SMUTS, P.C., C.H. (South Africa).

Major-General H.H. THE MAHARAJAH OF BIKANER, G.C.S.I., G.C.I.E., G.C.V.O., G.B.E., K.C.B. (India).

STAFF.

Secretary, Editor and Chief Executive Officer : Captain E. ALTHAM, C.B., R.N.

Librarian and Curator : Major E. L. HUGHES, D.S.O., O.B.E.

Assistant Editor : Lieut.-Colonel H. G. de WATTEVILLE, C.B.E., late R.A.

Assistant Executive Officer : Captain S. J. PARKER, M.C., D.C.M.

Auditors : MESSRS. BLACKBURNS, BARTON, MAYHEW & Co.
Alderman's House, Bishopsgate, E.C.2.

Bankers : ROYAL BANK OF SCOTLAND, DRUMMOND'S BRANCH.
Charing Cross, S.W.1.

MEMBERSHIP.

Full particulars of Membership with alternative forms for Bankers' Orders can be obtained on application to "The Secretary, Royal United Service Institution, Whitehall, London, S.W.1."

Commissioned Officers of *all* H.M. fighting Services, including those of the Dominions, Colonies and India, and Midshipmen of the Royal Navy, Royal Naval Reserve and Royal Naval Volunteer Reserve, are eligible for membership without proposal or ballot.

Naval, Military and Air Force Cadets are eligible on the recommendation of their Commanding Officers.

An Officers' Mess may subscribe to the JOURNAL, but is *not* eligible for membership.

TERMS OF SUBSCRIPTION.

ANNUAL MEMBERS.—Entrance £2 2s. 6d.; annual subscription, payable on 1st January each year, £1 5s. 6d.

Annual Members joining on and after 1st October are not called upon for any subscription for the following year.

LIFE MEMBERS.

(a) £20 0s. 6d., payable in one sum or:

(b) £21 0s. 6d., payable in four instalments of Five Guineas, the first on joining, the others on 1st January of each succeeding year.

The above rates of subscription entitle Members to the loan of four volumes at a time from the Library, provided they are at Home or at those stations abroad where arrangements exist for forwarding books.

It is important that Officers joining should furnish full and clear particulars of their Name, Rank, Ship, Regiment or R.A.F. Squadron, etc., and the address to which they wish their JOURNALS sent.

Officers of the Indian, Dominion and Colonial Naval, Military and Air Forces temporarily in the United Kingdom may become members for a period of six months on payment of Ten Shillings and Sixpence, or One Guinea for a period of twelve months.

THE INSTITUTION.

The Royal United Service Institution is situated just below the War Office in Whitehall. It has the best professional Library in the United Kingdom; a Lecture Theatre where an autumn and winter session of lectures is devoted to subjects of current or historical Service interest. The Reading and Smoking Rooms are provided with the leading papers, periodicals and writing materials.

The Institution is open daily from 10 a.m. to 7 p.m., except Sunday, Christmas Day and Good Friday.

THE JOURNAL.

The R.U.S.I. JOURNAL is published quarterly and sent post free to Members in any part of the world.

THE MUSEUM.

Situated in the Banqueting Hall of the old Palace of Whitehall (1622), with its magnificent Rubens ceiling, the R.U.S.I. Museum is a treasure house of relics and mementoes of great victories and renowned warriors. There is also a most valuable collection of Uniforms, Medals, Ship Models, and models of the battles of Trafalgar and Waterloo.

For Members and their friends, there are private entrances to the Museum from the Institution.

H.M. Forces in uniform are admitted free at the public entrance.

Admission to the general public is 1s.; Saturday after Noon, 6d.

SECRETARY'S NOTES

May, 1929

Vice-President.

The Council regret to have to record the death of Field-Marshal Ferdinand Foch, G.C.B., O.M., D.C.L. (Maréchal de France), on 20th March. He was a Vice-President of the Institution since 1919.

Council.

At the Annual General Meeting the following were unanimously elected to fill the vacancies on the Council:—

ROYAL NAVY.

Vice-Admiral W. H. D. Boyle, C.B.

ROYAL MARINES.

Brigadier A. G. Little, C.M.G.

ARMY.

Major-General P. G. Grant, C.B., C.M.G.

Major-General Sir J. E. Capper, K.C.B., K.C.V.O.

Chairman of the Council.

Admiral Sir George P. W. Hope, K.C.B., K.C.M.G., has been elected Chairman of the Council for the year 1929-30.

Field-Marshal Sir C. W. Jacob, G.C.B., K.C.S.I., K.C.M.G., has been elected Vice-Chairman of the Council for the year 1929-30.

Ex-Officio Members.

On the retirement of Admiral Sir Richard Webb, K.C.M.G., C.B., from the appointment of President of the Royal Naval College, Greenwich, Vice-Admiral J. W. L. McClintock, C.B., D.S.O., his successor, was invited to become an *ex-officio* member of the Council, but owing to his serious illness and subsequent death, he was unable to accept the Council's invitation. Vice-Admiral W. H. D. Boyle, C.B., now President of the Royal Naval College, Greenwich, has become an *ex-officio* member of the Council.

Council Committees.

The Finance; Journal and Library; and Museum and General Purposes Committees, have been re-elected for the year 1929-30; and are constituted as detailed in the Secretary's Notes for May, 1928, with the exception that Colonel Bertram A. Smith, D.S.O., M.C., T.D., A.D.C., replaces Lieutenant-General H. D. Farquharson, C.M.G., on the Finance Committee; and Vice-Admiral W. H. D. Boyle, C.B., replaces Admiral Sir Richard Webb, K.C.M.G., C.B., on the Journal and Library Committee.

New Members.

The following Officers joined the Institution during the months of February, March and April :—

ROYAL NAVY.

Paymaster Sub-Lieutenant E. P. Geere, R.N.R.
 Lieutenant-Commander H. L. Agnew, R.N.
 Captain G. C. Dickens, C.M.G., R.N.
 Lieutenant Commander S. Richardson, R.N.
 Lieutenant S. Borrett, R.N.
 Captain E. C. O. Thomson, D.S.O., R.N.
 Commander A. L. Gwynne, C.B., R.N.

ARMY.

Captain L. C. Gates, M.B.E., M.C., Lincolnshire Regt.
 Lieutenant G. W. P. Thorn, The King's Regt.
 Captain T. D. C. Owens, M.C., 4th P.O.W. Gurkha Rifles.
 Lieutenant G. C. Humphreys, Northumberland Fusiliers.
 Lieutenant H. A. V. Elliott, The Queen's Royal Regt.
 Lieutenant-Colonel Lord D. M. Graham, D.S.O., M.C., R.A.
 Colonel H. S. Nelson, R.A. (retired).
 Lieutenant-Colonel A. B. Haig, M.C., 4/14th Punjab Regt.
 2nd Lieutenant R. Bailey, Royal Tank Corps.
 2nd Lieutenant R. H. Lomer, Grenadier Guards.
 Major A. F. Purvis, M.C., Scots Guards.
 Lieutenant-Colonel A. C. L. Tyrrell, O.B.E., I.A. (retired).
 Captain W. E. N. Burlton, M.C., Prince of Wales' Volunteers.
 2nd Lieutenant C. J. H. Dunbar, Scots Guards.
 2nd Lieutenant C. A. Fletcher, Scots Guards.
 2nd Lieutenant P. S. Fotheringham, Scots Guards.
 2nd Lieutenant M. D. C. Hanbury-Tracy, Scots Guards.
 Lieutenant R. H. Maxwell, Suffolk Regt.
 Lieutenant A. L. Leaf, 16/5th Lancers.
 Lieutenant J. A. Clegg, Hampshire Regt.
 Lieutenant C. J. Luce, West Yorkshire Regt.
 Captain J. T. Morton-Clarke, O.B.E., R.A.S.C.
 Major E. F. Eagar, Royal Berkshire Regt.
 Lieutenant W. J. Bedford, R.A.
 Lieutenant G. H. Bolster, Northumberland Fusiliers.
 Lieutenant R. N. Vaughan, Royal Fusiliers.
 2nd Lieutenant C. F. Allen, Seaforth Highlanders.
 Captain H. Pigot, Q.V.O. Corps of Guides.
 Major H. H. Cripps, D.S.O., The Royal Fusiliers.
 Lieutenant R. L. T. Murray, The Black Watch.
 Captain V. L. Misselbrook, M.B.E., K.G.O. Gurkha Rifles.
 Colonel C. J. Newton, late Loyal Regt.
 Major A. C. Hughes, T.D., Royal Berkshire Regt.
 Captain C. S. Nash, 3/11th Sikh Regt. (Rattray's).
 Lieutenant A. H. G. Ricketts, Durham Light Infantry.
 Captain S. S. Murcott, 1st Madras Pioneers.
 Lieutenant C. C. Barrett, R.A.
 Lieutenant R. St. C. Davidson, R.E.

ROYAL AIR FORCE.

Flight Lieutenant C. E. V. Porter, R.A.F.

Flying Officer S. Wallingford, R.A.F.

CIVIL.

M. F. Wren, late Indian Police.

Gold Medal Essay Result, 1928.

The report of the Referees appointed to adjudicate on the Gold Medal Essay for 1928 will be found at the end of this JOURNAL in the "Proceedings at the Anniversary Meeting," (page 453). No Gold Medal has been presented for the year 1928, but the first Trench-Gascoigne prize of thirty guineas has been awarded to Lieutenant-Commander J. D. Prentice, R.N., and two second prizes of ten guineas each have been awarded to Commander R. D. Binney, R.N., and Captain R. W. Oldham, R.N.

Special Facilities for Junior Officers.

The special attention of Members is invited to the new Bye-Law governing the entrance of Junior Officers to the Institution, which was passed at the last Annual General Meeting. The terms are as follows:—

"Commissioned Officers of the Home, Dominion, Indian and Colonial fighting Services and their Reserves, of three years or less seniority as such; Midshipmen, R.N., R.N.R. and R.N.V.R.; and Naval, Military and Air Force Cadets, shall be admitted to Membership without Entrance Fee on payment of the first annual subscription of £1 5s.

"In all cases eligibility for such Membership shall be governed by para. 1 of Chapter 2.

"An Officer who is admitted without entrance fee and who subsequently fails to pay his annual subscription regularly or resigns, shall not be re-admitted without payment of such fee, notwithstanding the fact that he may, by virtue of his rank or seniority, be otherwise eligible for such concession.

"Officers joining under this Bye-Law will date their Membership from 1st January of the year in which they join. They shall not have the privilege of becoming Members in October and of paying no subscription on the ensuing 1st January."

MUSEUM.

Special Exhibitions.

PANORAMA OF ARMADA SHIP MODELS.—This Exhibition will probably be continued until July. It shows, in a picturesque setting, types of the principal ships of the rival fleets which took part in the battle of the Great Armada.

AIRCRAFT MODELS.—Models of aircraft showing the development of flying boats and seaplanes are now on view in the Crypt.

It is hoped to secure a number of exceptionally fine models of airships, and additional models of flying boats and seaplanes in the early part of August, for a Special Exhibition to be continued through the latter part of the year.

Additions.**PERMANENT.**

- (8267) Full-dress uniform of Commander, R.N., 1890.
Cap of Royal Naval Artillery Volunteers, 1890.
 - (8268) Tunic, mess-jacket and overalls of Royal Engineers, 1860.
 - (8269) Woman's dress and head ornament from the Solomon Islands.
 - (8270) Collection of medals belonging to Captain C. F. Fenwick.
 - (8271) Model of Demarcation Stone at Hell Fire Corner, Ypres.
 - (8272) German Iron Cross.
 - (8273) Compass of H.M. Airship "R.34" (previously on loan).
 - (8274) Cannon-ball recovered from the wreck of a Spanish ship sunk after the defeat of the Armada.
 - (8275) Boer proclamation issued on the escape of Winston Churchill from a prisoner-of-war camp.
 - (8276) "Russelas," by Dr. Johnson, presented to Garnet Wolseley in 1846.
 - (8277) Two tins of Mauxion chocolate with Mauser pistols concealed underneath for smuggling into China, seized by a British gunboat.
 - (8278) Snuff Box made from the wood of the "Royal Oak" sunk in 1782.
 - (8279) Case containing models of H.M.S. "Sydney" and "Emden," before and after capture.
 - (8280) Chinese picture in silk.
 - (8281) Arm of the State Chair of Yeh, Viceroy of Canton, who was taken prisoner in the Chinese war of 1857.
 - (8282) Coloured engraving representing the landing of the British Division at Old Fort, Sebastopol.
 - (8283) Chinese Officer's despatch case, taken in the Boxer Rebellion, 1900.
 - (8284) Chinese spear, axe and jingal, taken in the Boxer Rebellion, 1900.
- LOAN.**
- (3579) Gold Medal and chain presented to Captain John Tupper by order of the Admiralty, for capturing French Privateers after the Battle of La Hogue.

Attendance.

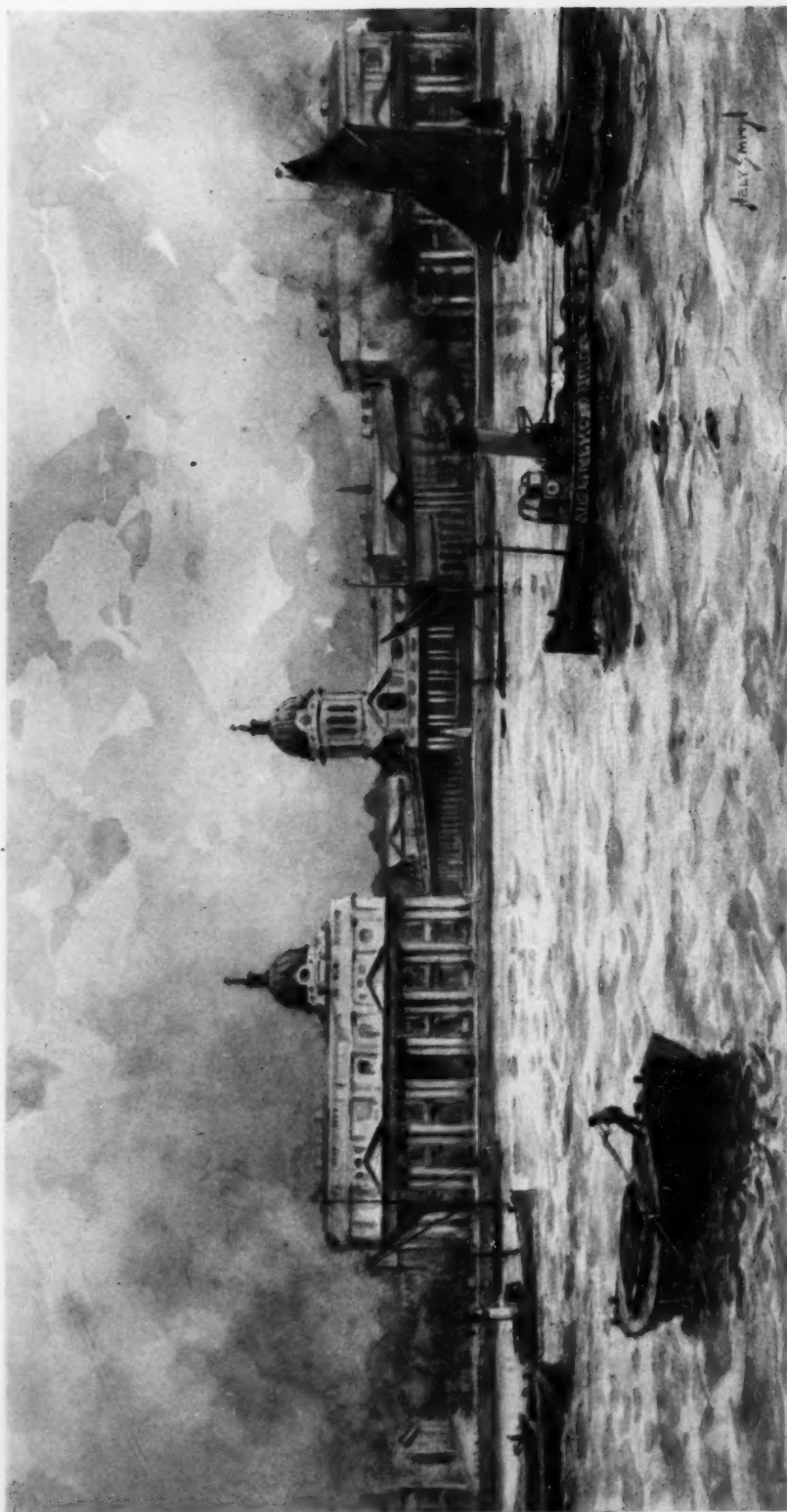
The amount taken for the past Quarter was :—

£65 16s. 6d. in February.
£71 10s. 6d. in March.
£227 11s. 0d. in April.

Purchase Fund.

This Fund was opened with the object of purchasing suitable exhibits, which, from time to time are offered to the Museum, or are put up for sale at various auctions. The Council hope that it will receive support from Members of the Institution who are interested in the Museum.

Balance in hand	..	..	..	£23	12	8
" Anonymous "	..	..	..	1	0	0
B. E. Sargeaunt, O.B.E., M.V.O., F.S.A.	..	..	..	2	0	0
Captain H. Bullock, I.A.	..	..	..	5	0	0
Proceeds of sale of surplus exhibits	..	..	..	12	14	9
				£39	12	5



From the Picture
By Hely Smith, R.B.A.

THE ROYAL NAVAL COLLEGE, GREENWICH
WHICH ALSO HOUSES
THE ROYAL NAVAL WAR COLLEGE
AND
THE ROYAL NAVAL STAFF COLLEGE.

By courtesy of
Messrs. J. J. Kelther & Co., Ltd.

THE JOURNAL
OF THE
Royal United Service Institution

Vol. LXXIV.

MAY, 1929.

No. 494.

[Authors alone are responsible for the contents of their respective Papers.
All communications (except those for perusal by the Editor only)
should be addressed to the Secretary, Royal United Service Institution.]

PRIZE ESSAY (NAVAL) FOR 1928

SUBJECT:

Discuss with relation to Maritime Warfare, the application of the following principles:—Concentration: the Object: Economy of Force: Surprise: Security: and illustrate your discussion with examples from Naval Strategy and Tactics.

By LIEUTENANT COMMANDER J. D. PRENTICE, R.N.

Motto: "Spero Meliora."

THE above are five of the principles of war laid down in our text books. All these principles are inter-related and react upon each other. In many cases they are contradictory. To adopt one completely often means that another must be disregarded; yet each must be understood and valued upon its own merits. An attempt will be made here to discuss these five principles separately, together with their application, and with some slight mention of their reaction upon each other.

CONCENTRATION.

Concentration might well be described as the most efficient method of winning any contest of arms. All other things being equal, that side will conquer which succeeds in bringing a superior force against an inferior force of the enemy. In fact the art of war might almost be

summed up as this : to attack the enemy where you are strong and he is weak, where you are concentrated and he is not.

Yet in a Service where traditions are built, and rightly built for the sake of its morale, upon the hard fighting qualities of men and ships, this essence of the art of war is in danger of being lost sight of. To attack when we are strong and our enemy is weak—why, it is definitely against the spirit of all the examples which have been handed down to us ; it is against the whole conception of chivalry in war. To fight against odds ; to overcome greater numbers by harder hitting ; to achieve victory even though our casualties be enormous and our ships battered to pieces ; these are the things which fire the imagination ; that is the spirit ingrained in our Service and rightly so, for without that spirit all the strategy and tactics in the world are useless. But we are liable to forget that high moral qualities are equally unavailing if wrongly applied.

We remember the Elizabethan wars as a series of combats against terrific odds ; of small English ships fighting enormous Spaniards ; the whole mirrored in the last great fight of the " Revenge." But we forget that the Elizabethan shipbuilders had put into practice the principle of concentration in a form to which we returned when the " Dreadnought " was built. Their ships mounted heavier guns ship for ship than those of the Spaniard, so that they could attack in strength where the enemy was weak. We are very seldom told of those early examples of tactical concentration which the English squadrons, especially Drake's, employed against the Armada ; of how our ships followed each other down upon the Spaniards, each discharging her broadside in turn into the same enemy and making off again, until a weak spot in his formation was marked by a shattered, blazing wreck. The Spaniards, brought up upon the chivalrous ideas of land warfare, thought it an entirely ungentlemanly proceeding, whereas it was really effective and successful war.

The real problem which confronted our Admirals throughout the history of the sailing era remains the same to-day—how to bring two British ships simultaneously against one of the enemy. And yet how often do we hear those two sayings of Nelson's quoted : firstly, that if he met the French fleet, no matter what the odds against him, he would " give them such a drubbing that they would do us no more harm this year " ; and, secondly, that " no Captain could be wrong in action if he laid his ship close alongside a Frenchman " ; words which, taken alone, without examination of the circumstances, lead to the idea that the great Admiral's one thought was to close and fight in the face of any odds ; whereas, in reality, his plans were laid to effect, and his

victories were won by producing, some overwhelming tactical concentration against a part of the enemy's fleet.

It is a remarkable fact that these two great seamen, Drake and Nelson, both of whom realised to the full that to succeed in war it is necessary to bring strength to bear against weakness, should stand out in tradition as men who willingly accepted heavy odds.

Operations of war are divided into the categories of strategy and tactics ; but in these days of aircraft, wireless and fleets which, even in their diminished states, cover large areas, it is difficult to draw the old dividing line, that strategy ends and tactics begin when the opposing fleets are in sight of one another. The conduct of all sea warfare does, however, fall into two parts : firstly, the placing of fleets or squadrons upon the map of the world and the allocation of their bases to them ; secondly, the operation of those fleets and squadrons from their bases. Broadly speaking, therefore, we can consider the basing of ships as the strategy of naval war and the remainder of their operations as its tactics.

STRATEGICAL CONCENTRATION.

Strategical concentration may be defined as the distribution of ships to the available bases in such a manner that they can unite on or before the scene of battle.

It is obvious that this could be most easily attained by keeping all the ships at one base. It is equally obvious that, in practice, it will probably be more advantageous to disperse them between several bases. The degree of dispersion which can be adopted is dependent upon two things : the position which it is possible to permit the enemy to reach before it is essential to bring him to action, and the speed and reliability of your intelligence with regard to enemy movements.

Two of the finest examples of strategical dispersion which ensured concentration at the right place and at the right time are to be found in the dispositions of the British fleet before the battle of Trafalgar, and those adopted during the first three years of the last war.

During the campaign which had Trafalgar as its sequel, the task set to the French Admirals by their Emperor was to gain command of the Channel for just so long as it would take to ferry the army of invasion across. It was the object of the British Admiralty to keep each French squadron blockaded by a superior force. This entailed a wide dispersion of our own forces from the point to which it was essential that the enemy should be brought to action. There was always the possibility that a French force might slip to sea without being sighted by the blockading squadron ; yet so well were the plans of the Admiralty

understood by the officers at sea and so expert were the British frigates at collecting and distributing information, that Their Lordships could rest assured that a complete British concentration would be effected in the Channel before the French could arrive there in force. How this actually happened and how Napoleon abandoned his invasion scheme some months before his fleet was destroyed at Trafalgar is well known, but the importance of the work of the British frigates, upon which the whole of our plans depended, is seldom sufficiently realised.

During the last war a dispersion of the British fleet was again rendered necessary. Scapa Flow was for about three years the only base at which gunnery and torpedo practices could be carried out without the risk of submarine attack. Cromarty, too small to hold the whole fleet, was used to give a little relaxation to each Squadron in turn. The Battle Cruiser Force was based at Rosyth to deal with the German coast raids. And yet these widely dispersed squadrons formed a strategical concentration. Thanks to the efficiency of our intelligence system, of our patrol submarines, and of our communications by land line and wireless, it was always possible for the British forces to combine in time to counter any movement on the part of the High Sea Fleet.

A strategical concentration may be composed of forces which are widely dispersed but the permissible extent of that dispersion must entirely depend upon the efficiency and rapidity of the intelligence system and of the communications of the fleet.

TACTICAL CONCENTRATION.

To crush an inferior portion of the enemy's fleet with a superior portion of one's own may be said to have been and to be the essence of naval tactics. In the days of sailing ships the close hauled line ahead was evolved in order to provide security from any such attack. So long as both fleets maintained this formation, in other words, so long as Admirals looked first to the security of their own fleets and, secondly, to the destruction of the enemy, decisive results in battle were impossible. It was only when an Admiral was found who was willing to break his own line, in other words, to abandon his own security, that a victory resulted. The essence of the movement has always been considered the breaking of the enemy's line. It would have been more aptly described as the breaking of one's own. What it amounted to in fact was the abandonment of the security given to the fleet by its rigid line ahead in order that a portion of the enemy might be cut off and a concentration brought to bear upon that portion.

For instance, at Trafalgar, Nelson abandoned what, by the tactical rules of the period, was regarded as the security of his fleet by attacking

in double line ahead at right angles to the enemy's line. His object was a concentration upon the enemy's rear and his victory was more complete than that of any Admiral, except Togo, has been before or since.

How to bring about a tactical concentration under modern conditions of steam propulsion and long range gunnery is a problem which remains to be solved. Until it is solved no really decisive results can be expected from sea battles, except in the unlikely case of the meeting of two fleets whose fighting efficiency is as dissimilar as was that of those which met in the Russo-Japanese war.

We still have the rigid line ahead accepted as the formation which gives the greatest security; but it is no longer possible to cut off a portion of the enemy's line, since the closest range at which actions can be fought is many times as great as the distance between ships in line. The only form of concentration visualised at present is a gunnery concentration on the van. This is simply an XVIIIth century idea revived. Many Admirals, including Rodney, were then in favour of massing their three-deckers in the van in order to bring as many guns as possible to bear upon the front of the enemy's line. This action alone was never successful in obtaining the defeat of the enemy, and the present writer sees little reason to suppose that a similar proceeding would have any more decisive results to-day.

Why the idea of attacking the van should have returned, it is difficult to say. The argument advanced is that disorganisation to the remainder of the fleet will result from damage to the leading ships. But the ships in rear of the "Queen Mary" at Jutland were not disorganized when she blew up. It is still possible for a damaged ship in the van to haul out of the line and to obtain some cover for respite and repair while the rest of the fleet is passing her. At least, the Admiral will know of her plight and can reduce the speed of the whole fleet in order to support her. On the other hand, a ship in the rear whose speed is reduced will in all probability have dropped far astern before the fact that she is damaged has even been reported to the Admiral. By then she may well be in a position to be cut off and destroyed. If any assistance is to be given to her the whole fleet will have to be turned about, a very difficult manoeuvre in the heat of an action.

But the main difficulty in effecting a tactical concentration under modern conditions lies in the fact that no means has yet been discovered of containing one portion of the enemy's fleet while the other portion is being crushed. To concentrate your weapons upon one portion of the enemy's line while the remainder of his fleet is free to fire at you unhindered is to give him the advantage. It is possible that the answer may be found in some new device such as smoke; but smoke may easily

be a double-edged weapon and is not to be relied upon. On the other hand, ships which are moving away from the point of attack are automatically contained to a certain extent. It is therefore more probable that the results will be attained by the use of some new movement which does not entail rigid adherence to the order of single line ahead. If the separate squadrons of the fleet could be manœuvred so as to bring them into decisive range of the enemy's rear, while keeping as far from his van as possible, and if a concentrated attack from both gun and torpedo armaments, including those of destroyers and aircraft, could then be launched at his rear, it is more than probable that his last squadron would be crushed before the remainder of his fleet could come to its assistance. This would entail giving the enemy the advantage of position from the point of view of torpedo attack; but the whole teaching of the past points to the fact that some drastic departure from normal tactics, involving considerable risk, is necessary in order to attain that sudden surprising and overwhelming concentration upon some part of the enemy's fleet which is essential if decisive results are to be achieved in a sea battle between fleets of approximately equal strength and efficiency.

The successful Admirals of the past were not so much men willing to fight against great odds as men prepared to run great risks in order that the odds might be heavily in their favour, in at least one part of the battle.

THE OBJECT.

The choice of "the object" is one of the thorniest pitfalls which are set for writers of appreciations. We are told that the "course of action" of the senior authority becomes the "object" of the junior next in precedence. Thus the object of the British Government may be security for the country; its course of action the "control of sea communications." The object of the Admiralty becomes the "control of sea communications"; its course of action the "destruction or neutralization of the enemy's fleet." Therefore the object of the Admiral at sea becomes the "destruction or neutralization of the enemy's fleet."

Now the object of war at sea is always the "control of sea communications." Large expanses of water are of no conceivable use to anyone except in that they provide a cheap and speedy method of passing from one piece of dry land to another. Therefore the only possible object of fighting upon the water is to enable one's own country to use this method of transport while denying it to one's enemies.

In the case of Britain it is essential that the sea roads should be kept open without interruption. Other countries are less dependent upon

them, although in these days all are dependent upon them to a certain extent, particularly in time of war.

But is the most efficient course of action always the "destruction or neutralization" of the enemy's fleet, or can the sea roads be controlled by any other means? Firstly, what does this phrase "destruction or neutralization" mean? Destruction implies battle. What sort of a battle does not matter; but whether the enemy's fleet is to be bombed to pieces from the air, as some people believe possible, or sunk by torpedoes, as some people feared ours might be in the last war, or shot to pieces by heavy gun fire, battle of some sort is an essential part of destruction. Destruction therefore is a tactical proposition, but before it can be accomplished the fleet must be placed in such a position that it can bring the enemy to action. This is a strategical matter and, as we have seen, is really a question of "basing" the fleet in the correct position.

If the object of the enemy is also destruction then, as soon as this first strategical move has been taken, a battle will ensue and one side or the other will attain its object. If the enemy is bent on evasion then, when our fleet is strategically placed, or based in such a position that it can destroy him if he puts to sea, he is automatically "neutralized." Therefore, in adding the words "or neutralization" to the object we are allowing an element of weakness to creep into the wording. The first step towards destruction must accomplish neutralization, but neutralization may be maintained without seizing every chance of destruction. The phrase means then that the object of Admirals at sea should be, plainly and simply, the destruction of the enemy's armed sea forces.

But, it may be asked, is this always the correct object for the fleet: is it the best way of securing "the control of sea communications"? The real object of attack is the large number of defenceless enemy merchantmen. If the principle of concentration is to be adhered to and strength brought to bear against weakness, then surely it follows that an Admiral would be justified in evading the enemy's armed forces and striking at his weakest point, contenting himself with the threat of battle as a defence of his own sea communications, but only indulging in it if those communications are attacked. There are those who argue that to adopt the policy of destruction of the enemy's fleet is to lose sight of the real object of the war. Was it not De Grasse who said that it had always been the conviction of the French Admirals in the West Indies that the capture of an island was more to the honour and advantage of their King than the sinking of a few British ships. The Japanese effort to block the Russian fleet into Port Arthur at the commencement of the Russo-Japanese War is cited as an example of the correct realization of the object whereby the enemy's fleet was to be neutralized without

being destroyed. It is pointed out, too, that the German submarine campaign in the last war, which was based upon the principle of avoiding the enemy's armed forces, came within a fraction of success. So it is argued that had any of these policies been carried out with a little more efficiency, the objects of the countries adopting them would have been attained without the waste of life, material and effort which is entailed in a battle between fleets.

The fact remains, however, that in no case has the policy of disregarding the destruction of the enemy's fleet and, striving to attain by other means the ultimate object of the war, been successful. The French may have captured more islands than we did, but they were of little use to them when the French fleets were overpowered. The naval object of the Japanese was the safety of their lines of communication between Korea and Japan yet so thoroughly did they realise the necessity for the destruction of the Russian fleet that they expended very nearly their entire war effort, military as well as naval, to achieve that purpose. The Germans nearly succeeded because the threat of their main fleet was so great that it contained the major part of the British Navy, including our most efficient anti-submarine vessels. The evasive powers of the submarines, too, proved greater even than those of the privateers in the old sailing days. But when we solved the problem of countering the submarine, the German campaign began to collapse. Had our enemy directed his entire naval effort, submarine as well as surface, to the destruction of the Grand Fleet the outcome of the war might have been different.

The whole teaching of history points to the fact that, in order to obtain the control of sea communications, the object before an Admiral must be the destruction of every enemy warship. Too much emphasis cannot be laid upon this, particularly in these days, when fleets have no reserve squadrons behind them, and great moral courage is required to bring an enemy to battle, while the temptation to endeavour to achieve the object of the war while maintaining our own fleet intact is insidious and plausible.

If destruction of the enemy's fleet is aimed at, then neutralization must follow upon the first strategical move. If such destruction is attained, then the victor will either possess complete control of sea communications, as was the case after the battle of Tsushima, or his whole naval forces will be set free to combat any evasive or privateering attacks, as was not the case after Jutland.

ECONOMY OF FORCE.

Economy of force is at once the simplest and the most difficult of the principles of war to understand and to explain. Never to use more

force than is necessary to attain your object is a simple doctrine, yet it is difficult to quote instances in the past where its use or abuse has had a definite effect or to point to concrete cases to which it will apply in the future.

In war at sea the object is to destroy the enemy's ships. To attain the object completely it is necessary to concentrate the maximum force at your disposal against a point where he is weak. The greater the disparity between the forces engaged the greater will be the certainty and the efficacy of the result. But the seas cover a large area; the lines of communication which have to be controlled are long; evasion is easy and attack may come at any point. If too much force is concentrated at one point it may never strike the enemy at all, or may only destroy some insignificant part of him while the remainder of his ships are doing damage elsewhere. Hence it is necessary to use only sufficient force at any one point to ensure success at that point. And yet to attempt to be strong everywhere leads to one of the most certain roads to disaster.

To use a battle squadron to hunt down an armed merchantman would obviously be a gross violation of the principle if the enemy had battleships at his disposal, but it would be an excellent example of concentration if that armed merchantman was the only warship which he possessed.

Two good examples of the use and abuse of the principle are given by our operations against Von Spee in the last war. Cradock's force was considered strong enough to deal with matters on the coast of South America. This was economy run mad, and it led to the loss of the squadron. Then it was decided that the Grand Fleet was sufficiently strong to enable it to spare two battle cruisers and yet to be able to deal with the High Sea Fleet; the result was a surprise concentration in the South Pacific and the destruction of Von Spee's squadron.

Thus the main advantage to be gained by utilizing this principle is that greater dispersion is possible. And so the two principles of concentration and economy of force are contradictory and diametrically opposed. We must concentrate our maximum strength in one place in order to strike the enemy a crushing blow, yet we must economise that strength in order to strike him in as many places as possible. Even so the two principles can be co-ordinated and put into practice together if, and only if, our intelligence is rapid and exact. If we have accurate, timely information of the enemy's dispositions and movements, of his material, his efficiency and his morale, then, and only then, can we be certain of effecting our concentration at the vital time and place; then, and only then, will we be justified in "economising" our containing

forces to the maximum extent, while the essential blow of the moment is being struck.

It is in this vital matter of intelligence that economy should never be practised. After the Nile, Nelson wrote that, should he die, the word "frigates" would be found engraved upon his heart so great was his need for them. When the High Sea Fleet attempted its raid against the Norwegian convoy in 1918, the Germans were sighted as they left harbour by one British "J" boat; that boat failed to get her report through; had two submarines been there, one of them might have succeeded in passing in the news and a fleet action would in all probability have resulted. The blockships at Zeebrugge found the utmost difficulty in finding the canal entrance because the two M.L's detailed to mark that entrance had not reached their station; had four or six boats been detailed for this work, one of them at least should have been successful.

There is one other point with regard to the use of this principle. Let it be used where your intelligence is certain to enable you to be strong in as many places as possible; particularly let it be used with regard to your containing forces in order that your main concentration may reach its maximum strength and strike the heaviest possible blow; but, if you have any fear that some particular force has been "economised" to too great an extent, then make sure that that force has speed with which to run away. Thus will you avoid another "regrettable incident."

SURPRISE.

Of all the principles of war, surprise is at once the greatest and the least. It is the greatest because in order to put almost any of the other principles into execution, surprise, or its companion deception, must be used. It is the least, because alone it can accomplish nothing.

However fiercely the offensive may be followed it is almost certain to be met by a superior defence unless it is accompanied by surprise. Any concentration may find itself faced by a superior concentration unless it has been effected as a surprise. No force can hope to remain secure for long if its defensive measures are known to, and understood by, the enemy. The object, the destruction of the enemy, can never be attained, particularly at sea, unless he is surprised.

And yet surprise can give only a momentary, even if enormous, advantage. Unless that advantage is seized and driven home by rapid concentration and vigorous offensive, it will very quickly be lost. One of the greatest, yet easiest, mistakes to make in war is to forget that the effect of surprise is so short lived, and therefore it is useless to use this principle in a small way. An excellent example of such a mistake is to be seen in the use made by the Germans of their submarines for

commerce raiding. This particular type of warfare came as a complete surprise to Great Britain, but it was introduced spasmodically and time was given for the development of anti-submarine measures. Had the German Admiralty waited until it had available a really large concentration of submarines; had it then launched them with a determination to starve Great Britain into submission at all costs, history might have had at least one exception to the rule, that the object of naval warfare should always be the destruction of the enemy's armed forces.

MATERIAL SURPRISE.

Surprise may be brought about in many ways. It may be a material surprise, such as was caused by the efficiency of the German shells and protection at Jutland. Here was a case where a fleet superior in numbers and in prestige, was forced to adopt a defensive attitude for some months in the middle of a great war.

That greater advantage was not taken of it was probably due to the fact that it was as great a surprise to the Germans as to ourselves, and this is often the case with regard to material surprise in war. Fighting forces are notoriously conservative even with regard to their own weapons. Any new invention must be tried and its value proved before it can hope to be accepted. The result is that it is used in a small and hesitating way at first; witness the introduction of gas and of tanks in the last war. The enemy is thereby given time to equip himself in a like manner. The advantage gained by "surprise" is lost because it is not accompanied in practice by the other great principle of "concentration."

TACTICAL SURPRISE.

Any innovation in tactics has also to fight against this spirit of conservatism. The introduction of new and untried manœuvres has always been looked on with distrust; yet it is only by some such introduction that a tactical surprise can be brought about; and without it a crushing defeat cannot be inflicted upon the enemy unless the disparity between the fleets in numbers or fighting efficiency is enormous.

The beginning of the XVIIIth century saw the single line ahead established as the order which gave the greatest security to a fleet in battle. During the hundred years of almost continual warfare which followed, the occasions upon which that order was departed from to produce a tactical surprise were few. Each of these occasions marks a victory of no little importance. Rodney at the battle of The Saints broke his own line in order to break that of the enemy. Howe, on the glorious first of June, attacked in line abreast in order to break the enemy's line in as many places as possible. Nelson at St. Vincent, left his station in the line without orders to contain the enemy's van,

and give his Admiral time to crush the rear. At the Nile he attacked in difficult water in the dark; at Trafalgar he took the risk of exposing his ships to being raked as they approached and of bringing them into action successively. In each case security was abandoned to a great extent, but the action taken came as a surprise to the enemy and resulted in his defeat. One point must not be forgotten, however, in every case, except that of St. Vincent, the manœuvre employed had been thought out beforehand and was understood by the subordinates who put it into execution. Nelson, especially, was renowned for the care which he took to imbue his captains with his own ideas.

To-day we have returned to the single line ahead; to deployment at extreme range, or even before the enemy is sighted, in order that all ships may come into action simultaneously. In other words, to a state of affairs which gives a maximum of security to the fleet; in fact, to exactly the same state which had been reached about the year 1700. This is natural in peace time. The effect of some new departure cannot be calculated either in exercises at sea or on the tactical table. On paper the heads of Nelson's columns at Trafalgar should have been crushed before his rear ships came into action. The counter to Rodney's movements was laid down in the French text books and attempted by De Grasse, but failed in the heat of action.¹ The effect of surprise in battle can never be gauged before the event. Yet without surprise there can be no concentration; without concentration annihilation is impossible. But, to quote Nelson, "it is annihilation that the country wants, and not merely a splendid victory of 23 to 36—honourable to the parties concerned, but absolutely useless in the extended scale."

The problem of introducing the element of surprise into an attack upon the single line ahead of the sailing days appeared insoluble to most people, without taking risks which were too great. The solution was found by the abandonment of this order in the attacking fleet. To-day we are faced with exactly the same problem under different conditions. Is it carrying the analogy of history too far to say that the same abandonment will be necessary to solve the problem in the future?

STRATEGICAL SURPRISE.

The third manner in which the principle can be applied in war is called strategical surprise. According to our original definition of the

¹ The counter consisted in the van ships going about and coming to the assistance of the rear. This would have resulted in a very superior concentration being brought to bear against the British ships which had passed through the line. De Grasse made the signal but the Captains of his van ships are said to have "thought him mad to expect them to carry out such a manœuvre in the heat of an action."

border line between strategy and tactics at sea, this must mean that surprise is secured by the unexpected movement of some naval force or forces to a new base.

In the days of sail such a surprise was far more easy to effect than it is to-day. And yet strategical surprise has been accomplished under modern conditions. The best example of success in this direction in the late war was the Falklands. But in that case luck, or providence, brought Von Spee to the right spot, from our point of view, at the right moment. There was no delay and our battle cruisers were able to bring the enemy to action while his surprise was still complete.

The completeness of the surprise was due to the fact that the Admiralty had to a certain extent abandoned security. No one expected that two capital ships would be removed from the main theatre of operations. True, our superiority over the Germans at home was still great. Nevertheless it was a bold move to make when the fighting qualities of the opposing fleets were still untested, considerably bolder as it turned out than anyone realised at the time.

And so two points emerge. The first is that in order to attain surprise of whatever kind, security must be disregarded to a certain extent; risks must be taken. Whether it be the risk of pinning your faith upon some new and untried weapon, of executing some apparently dangerous manœuvre in the face of the enemy or of weakening your forces in one part of the world in order to bring about a surprise concentration in another, that risk must be accepted. The greater the outward appearance of that risk the greater will be the advantage gained by the resultant surprise, and if that advantage be pushed home with energy and with speed, above all with speed, then will that risk be eliminated and security regained through the destruction of the enemy.

The other point is that Intelligence, which is not included in the principles of war, is of overwhelming importance. This seems the merest platitude and yet it has often been forgotten in the past.

SECURITY.

Security is the most contradictory of all the principles of war and the most difficult to define. How is it possible to be secure if the offensive is to be adopted? How can security in all places and concentration in one be completely reconciled? How can the object—the destruction of the enemy's fleet—be accomplished while maintaining the entire security of your own? The answer is that these things cannot be. That security in war is a purely comparative phrase, and that the best way of considering the problem is to decide that any fleet which is in a

position to do more damage to the enemy than the enemy can do to it may be said to be secure.

Like all the other principles of war, security can be looked at from the point of view of material, of tactics, or of strategy. In every case we find that it cannot be attained completely if the other principles are to be observed.

In the field of material a completely unsinkable ship which had neither the speed to catch, nor the hitting power to sink, an enemy, would be of little use. On the other hand, our losses at Jutland proved that it is very easy to give too little thought and to apply too little imagination to security in ship design.

It is strange that in this question of material each succeeding generation has to learn by personal experience. Forgetfulness of the lessons of the past is due to the fact that it is so much pleasanter to study our victories than our defeats. In time of peace it is very easy to become complacent and to forget that in the past we have never been successful until we had received some very severe lesson from our enemies. We have emerged from every war with material which was more efficient than that of our adversary, but the reverse has generally been the case when we entered those wars. Imagination is not one of our strongest national characteristics; we are quick to learn from our enemies and to adapt ourselves to new conditions but, in these days of limited armaments and no reserves, we may find little time to practice our adaptability if our imagination and foresight have been insufficient to provide our ships with security of material in time of peace.

Now, as we have seen, there may be conditions under which the standard of moral courage displayed by an Admiral, in giving battle at all, must be of a high order. Particularly is this the case in these days when the entire responsibility for our naval supremacy lies with one battle fleet. Even during the last war it was rightly said that the C.-in-C. of the Grand Fleet was the only man in the world who could have lost the war in an afternoon. Therefore, under such conditions, the moral courage required to give even the appearance of an abandonment of security by seeking battle is very great indeed.

And yet in all our naval history it is difficult, if not impossible, to find a single instance where we have met with disaster or defeat through the attempt of an Admiral to introduce some new manœuvre or to take some tactical risk. Take the names of the battles where some unexpected degree of tactical security has been discarded in order to push home the offensive, to secure a concentration, to effect a surprise: Quiberon,—a general chase on a dangerous lee shore; Rodney's exactly similar action off Cadiz, where eleven Spanish ships were destroyed or

captured ; St. Vincent, where one ship broke from the line to fling herself across the path of half the opposing squadron ; the Saints, where a manœuvre well-known but untried and considered dangerous was used for the first time ; the First of June, where, after long and careful manœuvring certainly, the attack was made in what amounted to line abreast,—once again a manœuvre which was considered extremely hazardous ; the Nile, where great navigational difficulties were accepted in fading light ; Trafalgar, fought on entirely original and apparently dangerous lines. These indeed are the names of the victories of England. They are also the names of the few and exceptional cases where tactical security has been, to some degree, laid aside in order to attain the destruction of the enemy. In each case something unexpected was done. The action was unexpected because it was risky, and for this very reason it surprised the enemy. As a nation we are cautious. We like to vest authority in the hands of the slightly conservative sound man, and in general this is an excellent policy. Nevertheless, we will do well to remember that it is the unexpected, the new, the surprising, action which attains decisive results in battle. That "it is annihilation which the nation requires." And that if we follow our natural tendency to put all our trust in old and well tried methods, to ensure our security above all things, then that annihilation can never be achieved.

In the strategical plan the problem alters again. Security may be momentarily discarded in the face of the enemy in order to surprise him, to throw him into confusion and to strike him before he has time to recover. But the degree to which this can be done is entirely dependent upon the time factor. If our blow falls before the enemy has time to recover from his surprise, then our security is automatically regained before he has time to realise that we had lost it. If we rely upon insufficient forces to guard our interests in some theatre of war we give the enemy time to discover our weak spot and disaster to ourselves too often follows.

The answer then, with regard to this most contradictory principle, is that in material and strategy too much attention cannot be given to it, but that when once the enemy has been brought to action it should be driven into the farthest background of the mind.

CONCLUSION.

From all this what are the conclusions which emerge ?

We find that the object at sea must always be the destruction, the annihilation, of the enemy's forces ; that to achieve this we must bring strength to bear against weakness, in other words, concentrate ; that, in order to concentrate for the offensive our containing forces must be

economised to the greatest possible extent ; that our concentration can only be effective and our economised forces safe if surprise is attained ; that the best way to attain surprise is to do something which is apparently too risky, something which is, in the eyes of the enemy an abandonment of security ; that any such abandonment must be understood and believed in by the subordinates who are to carry it out ; and that, for success in any of these things Intelligence, with everything which the word implies, is of the utmost importance.

It may be argued that these are platitudes, old as the history of war, self-evident and obvious, whose repetition is useless and which are known to the veriest beginner in the study of the art. And yet a glance at history is enough to show how easily they are forgotten in the heat of conflict by each succeeding generation. We are all too prone to think that we are at least the equals of our ancestors ; to study their victories and to forget their defeats ; to gloss over the failures of the past and to feel that such things could not be in the present or the future. But the fact remains that each generation learns by its own bitter experience. If anyone requires proof of this let him study the history of that form of warfare in which we should excel above all others, the combined expedition. Let him read Wolfe's words on the failure at Rochefort and then apply them to our operations at the Dardanelles or at Tanga.

Unless we are prepared to exalt ourselves as supermen, incapable of the mistakes which our predecessors have found it so easy to make when encompassed by the fog of war, we will do well to drive certain platitudes home into our brains by constant repetition in the piping times of peace.

To end with one more platitude : the Principles of War are laid down in our text books ; contradictory they appear to be ; co-equal they are said to be ; necessary their co-ordination and application undoubtedly remain. Nevertheless war is an art based on the human element. Not, even in these days, is it a science based on machines. And so it is still true that of all its Principles

"The first and the last and the greatest"

"That overrides all is—Success."

THE TRAINING OF THE REGIMENTAL OFFICER

By BRIGADIER B. D. FISHER, C.M.G., D.S.O., *p.s.c.*, A.D.C.,
Commandant of the Senior Officers' School, Sheerness.

On Wednesday, 23rd January, 1929, at 3 p.m.

FIELD-MARSHAL SIR GEORGE MILNE, G.C.B., G.C.M.G., D.S.O., LL.D.,
Chief of the Imperial General Staff, in the Chair.

THE CHAIRMAN in introducing the lecturer emphasized the importance of the subject and the value of Brigadier Fisher's views on the question, remarking that the lecturer had held the command of a cavalry regiment and a cavalry brigade, in addition to that of an infantry battalion and of an infantry brigade, while he was now employed as Commandant of the Senior Officers' School.

LECTURE.

I.—INTRODUCTORY.

BEFORE beginning my lecture I desire to put forward certain statements. In the first place, I wish to make it clear that the views which follow are my own and are in no way inspired; nor have they received any official backing. Secondly, I take it that we are all agreed that the losses, often incurred in the last war through lack of training and inexperienced leadership, can never again be contemplated. Lastly, I will assume that, in a small professional army, such as ours, every officer, in the event of an outbreak of war and of the consequent expansion of our Army, must be prepared to fill a rank one or probably two grades higher than the one he actually holds.

The Training of the Regimental Officer thus occupies a paramount place in our military life, and I take it that although on all matters connected with training a certain divergence of views is inevitable, we are all united in our realisation of the importance of this subject.

2.—THE BASIS OF OUR TRAINING.

With the march of science modern war has become far more complicated than formerly, owing to the introduction of such new factors as

air, gas, tanks, armoured cars and mechanization, to say nothing of the increase in the number and fire-power of the actual weapons at the disposal of the soldier.

Field Service Regulations say that "the proper co-operation of *all* arms wins battles, and enables the infantry to confirm victory." It is therefore no longer possible to consider war piece-meal, or to consider any of the arms alone. Each arm must be considered in relation to other arms, and in relation to the whole, so that no Commanding Officer can nowadays hope to command and train his unit—irrespective of what arm he belongs to—in tactical isolation. It follows, too, that more attention has to be paid by regimental officers to tactics in their proper sense, i.e., the tactics of one arm in relation to other arms. Study, too, is necessary in terms of increasing mobility, and in the limitations and capabilities of mechanization.

If the nation is ever again mobilized for war, the soldier, as he will have the duty of leading the nation, must know something of the nation's and the Empire's life. This involves something more than merely military training: it requires a broader or more general education, a knowledge of the lessons of history and of imperial geography.

Another aspect of the question lies in the danger of professional environment. Military training by itself is necessarily narrow and circumscribed; one has only to recall the officers of the old German army who were literally a race apart—a caste of their own—and consequently stood outside the influence of national life.

One might fairly quote the failure in 1918 of Ludendorff, a man who was the epitome of the German military hierarchy, to understand the psychology of the nation and his failure in the moment of crisis to rally the nation. Our military training should aim not only at producing a well educated officer but also a well educated citizen.

As a practical illustration of what I mean it is significant that the greatest figures of the American Civil War were *all* men who before that war had acquired a grounding as professional soldiers, but still *more* significant is it that they had *subsequently* widened their horizon in a different school. Lee went into civil engineering work; Stonewall Jackson quitted the army at twenty-seven to become a schoolmaster, and utilised his leisure to study military history; Sherman left the army at thirty-three to be successively manager of a bank, president of a military-flavoured college for boys, and president of a traction company; McLellan did the same at thirty-one, to become chief engineer of a railway.

Splendidly as our own officers led and fought in the Great War, I think that one quite just criticism that might be made is that we were

perhaps sometimes slow to realise the possibilities of new methods of warfare—such as the use of gas, the possibilities of concrete, tunnelling and other inventions; also that, as regards our non-regular officers we sometimes succeeded in putting square pegs into round holes, and that we did not always make the best use of the resources placed at our disposal by the mobilization of the nation.

It needs but the mass of war novels and diaries to reveal the underlying relationship between the regular and the citizen soldier in time of war. Leaving aside the more extreme anti-military diatribes, what does the bulk reveal? On the one hand, a lack of sympathy between the two classes and a keen resentment against the excessively "regular" and militarily short-sighted commander; on the other, a wonderful readiness to appreciate, even to hero-worship, any senior regular who commanded respect by his knowledge and regard by his breadth of understanding. We can profit by such a study of war books to discover the main causes of friction, and do our part in removing them in readiness for a future emergency. For such a higher tactical training and for the wider interests and study on the part of our regimental officers, which have been forced upon us as the result of our experiences in the war and by the development of science, the necessary *time* must be provided and organized; and I think that under existing conditions it can be provided without increase of hours or work. It is merely a question of adjustment, and possibly re-arrangement, of subjects and responsibilities—the point being that the time *is* there, and that it *must* be made available.

3.—MENTAL, MORAL AND PHYSICAL TRAINING.

All Military Training may well be divided into mental, moral and physical—and except in the briefest outline it is only with the first of these, as applicable to the training of the regimental officer, that I propose to deal. The out-of-door life, the encouragement of the right sort of sport, and the Army system of organized games leave little improvement possible in the physical training of the army, while the customs of the Service, the traditions of the unit, and the example of senior officers must adequately ensure that there is no lowering in the standard of moral training.

I would, however, emphasize the fact—not that it is altogether necessary perhaps—that before any form of mental training can bear fruit, one must have a contented and well-run unit. Tactics depend on this state of affairs, but tactical instruction will not produce it. The production and maintenance of this atmosphere is the first and most essential duty of a C.O. Only those who have had experience of the command of a unit realise to the full how arduous and anxious the task

often is, and all that it involves. Tactical instruction cannot flourish in an atmosphere of botched accounts, deficiencies of cash and clothing, badly fed men with insufficient recreation. For a well-run unit a sound system of interior economy is vital. Regimental officers must, therefore, first and foremost be sound and practical men of business; they must learn to account; they must learn to feed and attend to the comfort of their men.

4.—RESPONSIBILITY FOR TRAINING.

In peace it must be realised that the first duty of a C.O. is to train his unit; in war his first duty is that of leadership. We should do well to remember that the task of a C.O. carries with it far more responsibilities than that of any other executive rank. He not only bears the responsibilities of training, organization, and administration—three-quarters of his correspondence is never even seen by the Brigadier—but he can also exert an enormous influence over a mass of young men, since it is the last time in his service that he has that power, because once he leaves his unit he gets more and more out of touch with junior officers on whom the brunt of all fighting must necessarily fall.

The onus of the whole instruction of his officers thus falls on, and only on, the shoulders of the C.O., re-inforced by whatever assistance he can collect from inside and outside his own unit. The assistance of the General Staff can always be relied on in the preparation of regimental officers for the Staff College. The second-in-command is naturally the C.O.'s chief support, but, in many units he is not at present altogether a "whole-timer," owing to the fact that he has a heavy burden of administrative duties to bear. Given a good system and a well-ordered unit, I think sometimes that too much insistence is laid on the time-absorbing nature of these duties. It seems to me that there is no reason why, provided he is given the necessary clerical assistance, and also if another officer can in turn be detailed for so many months at a time to help with the Institutes, the second-in-command should not take a large share in the instruction and tactical training of officers. On the principle of "every man to his own job," the C.O. may decide to hand over to him the definite task of preparing officers for their promotion examinations. The command of the flagged enemy in collective training is another appropriate task for the second-in-command.

At the same time one cannot help thinking that the time has come for a re-consideration of the duties allotted in many units to the second-in-command. He is the second most important man in the regiment, and apart from the fact that the organization of the regimental Institutes has now been taken out of the hands of contractors and handed over to the N.A.A.F.I., it seems to me that a very great proportion of the

administrative duties, often now performed by him, might well be handed over to an officer of more junior rank, say, to an assistant adjutant, releasing the second-in-command for the assistance he should rightly give to his C.O. in all matters affecting the tactical training of regimental officers, and for fitting himself more aptly to carry out the duties of command to which he should ultimately succeed.

To achieve such a result—this insistence on the C.O.'s responsibility for the training of his officers has been rather a remarkable evolution, or even revolution—a distinct break with the past is clearly necessary. We can remember the system prevalent before the war in most units, and what little opportunities many of us who have been C.O.'s, and those who are C.O.'s to-day have had. We have suffered, it is true, not so much in acquiring the necessary knowledge, as in the practice and experience of imparting it in a palatable and instructive way. Knowledge is power, and knowledge begets confidence, but something more than confidence is required. Most officers of any seniority have had to train themselves with very little assistance in their own units from above; of course, I do not refer to Army Schools of Instruction. Here and there one has recollections of great help in the way of guidance; very occasionally some little continuity in organized instruction has been obtained; but mostly it has been done by dint of "picking-up" and through a certain amount of curiosity.

Although only the briefest reference has been made to the moral side of training, it may not be out of place to mention the vital necessity on the part of the C.O. of a knowledge of, and keen insight into, human nature. Without such knowledge the best results can never be obtained. The ultra-keen C.O., who only contrives to give his officers mental indigestion and a surfeit of tactical training, has succeeded no better than the ignorant and idle C.O. The C.O. has the all important duty of developing character in his officers, and before an officer can inspire and create character in others, he must have character and knowledge himself. Self-effort is the backbone and skeleton on which character is shaped. A C.O. is in a position to direct self-effort by sympathetic means to the highest ideals, and he can encourage individuality. The public school spirit, with all its advantages, has the supreme disadvantage of forming a narrow outlook by insisting on an exaggerated regard for public opinion. The average young officer joins with this spirit. It is not for the C.O. to break it, for it has much in it that is military and admirable, but it is for him to modify it, to encourage individuality and the expression of personal opinion. It is for him to find out the interests of his young officers, to encourage them to pursue them, and to break down the absurd tradition that no "shop" should be talked in a mess.

5.—THE OFFICER IN THE MAKING.

Let us consider the material with which the average C.O. has to deal. The material must and does vary enormously within a unit. It varies in age, experience, ability, keenness, and ambition. Characteristics of officers vary so much that many are outstanding in different qualities, and it is these qualities which, as I have said, a C.O. should encourage and endeavour to use to the best advantage: and in training officers this must be recognised. The best can be assisted further; the dullest must be brought up to as high a standard as possible. The point is that instruction should *not* be limited to a particular stock standard; it must be elastic to help all. We must never forget that many of the outstanding successes in the war were regimental officers who had not been conspicuous in peace for their ability to pass examinations, or to unravel knotty tactical problems. We cannot afford to dispense with this class of officer, as long as he is a tryer. As the Haldane Committee on Education said, we cannot expect—nor do we want—all our officers to be intellectuals.

The regimental officer of to-day, as I see him, is quite prepared to be trained and instructed, but he is not prepared to be bored. He is, as a rule, enthusiastic to master his profession. One has only to remember the number of candidates who present themselves annually for the Staff College examination to realise what an amazing voluntary effort that is on the part of the regimental officer. But it is true that junior officers are as a rule very critical of the instruction they receive, being at the same time extremely responsive to any instruction that is interesting, "live" and human. It is only the well trained and well educated officer who can make training interesting and live. The moral is obvious.

6.—ALLOTMENT OF TIMES AND DUTIES.

I mentioned the necessity of making the necessary time available for the tactical training and wider study of officers. There are several ways in which I think this can be done, and where definite concrete proposals can be put forward:—

- (i) A thorough re-organization in the system of the composition of the many Boards and Courts of Enquiry, on which a considerable time of an excessive number of officers, never less than three, is at present wasted. This system is a relic of the time of Wellington, and of the days when N.C.Os. could not even write. The alternative suggestion is that any one officer of, say over three years' service, should be made solely responsible for a thorough investigation of, and a considered report on, the subject under review. From practical experience I believe that this system would result in more:

thorough and efficient work—and without doubt would ensure less dislocation to training, and allow of a greater continuity of instruction, and a closer adherence to the programme of work, apart altogether from the enormous economy in money and time. Of course, I do not include the Quarterly Audit Board which, when properly conducted, is one of the best means of imparting or imbibing financial and administrative instruction.

- (ii) The allotment of greater responsibility to W.Os and N.C.Os, and consequent release of officers from many barrack and other soul-destroying duties. Until responsibility has been actually shouldered, the supreme test cannot be applied. Our W.Os and senior N.C.Os of 1914 were commissioned at once, and it is common knowledge how quickly they made good. In the event of another war of any magnitude, the same thing will inevitably happen again. The high present day standard of intelligence of our senior N.C.Os and the success of the "Y" Cadets at Sandhurst are pointers that the time has come for a reconsideration of the dividing line of responsibility between commissioned and non-commissioned rank. I refer to such details of training as many forms of individual training, weapon training, stables, harness cleaning, etc., where surely it is the occasional supervision of an officer, and not his active or passive participation in the actual work which is required, and where the responsibility for the actual performance of the duty may well be laid at the door of the N.C.O. In this connection I want to make special reference to the S.S.M. or C.S.M., who in matters of training has generally far less responsibility than his own troop or platoon sergeants; he often acts merely as an extra orderly to his squadron or company commander. His shoulders at any rate are broad enough to stand the extra weight of responsibility.

Without going too deeply into an exact comparison, the advantage of this suggestion—apart from the fact that a considerable amount of an officer's time has automatically been made available for tactical training and study—tends towards the creation of a class of N.C.O. approximating more closely to that of the German *Unteroffizier*, and that of the French *Adjudant*.

- (iii) The system, which still prevails in some units, of all officers attending, or kicking their heels at, the C.O's daily Orderly

Room on the chance of their being wanted should be definitely and officially forbidden. It is sheer waste of time and boot leather

7.—ORGANIZATION OF WINTER TRAINING.

The success of the whole year's training season, to my mind, depends on the thorough preliminary organization and minutest attention to detail expended by the C.O. in his compilation of the programme of winter or individual training. Without this organization and care, full value will not be obtained from collective training. The Army has been told by the C.I.G.S. that "the tactical training of his officers is the most responsible duty placed on a unit commander during the winter months, and nothing must be allowed to interfere with it."

The underlying principles of the individual training period is the training of the teachers. The slogan might well be "Teach the teachers what to teach before they teach the Tommies." In the Collective Training Season these teachers train their units, and learn to work in co-operation with other units and with other arms. They cannot do this, unless they have been properly and well taught in the individual training season; if they have been so taught, then half the difficulties of collective training disappear.

It follows from this that the really important part of the whole year's training is the Individual Training Season. And yet once the programme for it is drawn up, it often just carries on; there is not the same supervision by senior officers and not the same help from senior officers, as in the Collective Training Season, when everyone is back from leave, inspection and supervision are the rule, the weather is good, and every G.O.C. rides out daily to see the troops and help in their training. But it is then too late to start teaching the teachers; this must be done in the winter.

It seems therefore that we must recast our views about the relative importance of the Individual and Collective Training Seasons. With all his officers well instructed in a common doctrine, a C.O. would then embark on the Collective Training Season with complete confidence as to the result.

There is no reason why some officers should not be given their annual leave during the Collective Training Season, as so often happens in India; moreover the summer is a time which some officers would infinitely prefer themselves. Neither is there any regulation against it.

As regards officers, I think Individual Training may well be divided into three headings:—

- (i) Tactical training, including study of the administrative problems involved;

- (ii) Military history, for which some special campaign has to be studied ;
- (iii) Special instruction of officers who are studying for their promotion examination, and of those who have not yet passed for promotion.

This tactical training in the winter largely takes the form of indoor and outdoor tactical exercises without troops, to which I will refer later on.

For a study of Military History a certain amount of reading and attendance at a certain number of lectures are, of course, necessary. The real value of military history lies in the strategy of the campaign, and above all in the psychology of the commanders (their inner thoughts their impressions, etc.), and not with the petty details of minor tactics and in-fighting. It should not be the ambition only to answer examination questions. Human nature first and foremost, and, next in order of importance, the local difficulties of weather, fatigue and terrain are the problems that should mostly be studied. It is the moral factors which are predominant in all military decisions—and throughout history these factors are constant, whereas the physical factors are fundamentally different in almost every campaign and in every situation. The best results from a study of military history can probably be obtained by a regimental discussion or debate on some subject, preferably of controversial interest, and a C.O. might occasionally be well advised, in the interest of encouraging argument, to limit the choice of the opening speakers to officers of junior rank.

8.—TACTICAL EXERCISES WITHOUT TROOPS.

The actual detail of the conduct and organization of tactical exercises without troops are clearly and fully explained in our Manuals and Training Memoranda, and officers have now had considerable practice in carrying them out. Requirements, aims and means to perfection are admirably laid down ; nothing could be clearer or more complete ; the only difficulty is how best to carry out these instructions. The ideal is that all arms should be represented at these exercises, and everything should be done to ensure that this is done. The one point I should like to stress is the value of quality before quantity. I doubt whether, during the period of Individual Training, it is possible for the instruction derived from one carefully worked out scheme, dealing with one of the main phases of war, to percolate right down to junior N.C.Os, and to be thoroughly grasped by all officers and N.C.Os much under four definite days' work. On the first day the C.O. instructs his Company Commanders and seconds-in-command of companies. On the second the Company Commander passes the instruction on to his Platoon

Commanders and senior N.C.Os. This method carries out the instruction of T. & M. Regulations that the Squadron or Company Commander must be made to feel that he is responsible for the continuous training of his command, and not only during Squadron or Company training. On the third day Troop or Platoon Commanders, under the supervision of the Company Commander, pass on all appropriate instruction, derived from this scheme, to all N.C.Os and Section Leaders, and men marked out to be Section Leaders. The fourth day is not only a safeguard against weather difficulties, but is at the C.O's disposal for repetition, and the discussion of any fresh points that have cropped up since the first day; this repetition is especially valuable, and finally fixes the main points in all minds.

In the Individual Training Season, in view of the interruption of leave and furlough, it is worth considering whether the winter season cannot be divided into two periods to correspond with the periods of leave, the second period being a repetition of the first. I am sure that the insistence on instruction really percolating the whole unit is most important, and it is the one sure means of establishing within the unit a common tactical doctrine. A common doctrine means the same accepted interpretation of the Manuals.

One sound plan I suggest is the earmarking of one day a week—say a Wednesday, all through the Individual Training Season, and for as many weeks as possible through the Collective Training Season—on which all officers are definitely, and without exception, at the disposal of the C.O., solely for tactical training. In a brigade of course it would be essential for battalions to earmark the same day—otherwise there would be the possibility of Courts of Enquiry, or Boards, etc., clashing, and the advantages of the scheme would be thereby ruined.

Whilst on this point I would press for an even larger distribution of W.O. Training Memoranda, Reports on W.O. Staff Rides, and even Intelligence Summaries. It may cause extra expense, but would be money well spent; at present copies are distributed down to Company Commanders. Things are moving so quickly to-day that our Training Manuals often find themselves out-of-date, so that a study of these Memoranda and Reports is the best and only way of keeping up-to-date. And one minor suggestion I should like to offer is that each year these Memoranda and Reports, whether retained in an officer's own possession or in the regimental or company office, should be bound into one volume; this should be quite easy to arrange regimentally.

9.—PRESENT SYSTEM OF TRAINING OFFICERS.

I now wish to consider briefly, from the date of his first commission, the various steps in the career of an officer, from a training point of view.

Under the syllabus now in force at Sandhurst, the course of instruction is designed :—

- (a) To ensure that a Gentleman Cadet joins his unit so thoroughly grounded in drill, weapon training, equitation and physical training as a private soldier, that no further instruction of this kind is required. No attempt is made to turn out a Gentleman Cadet as a trained troop leader or platoon commander. It is in the regiment that his training as a leader will begin.
- (b) To lay the foundation of military and academic knowledge upon which the future military studies of an officer can be built.

It is outside my present scope to offer any criticism on this syllabus, or to press the advantages of a wider or more general education. But I do want to make one point, namely, that if the principles of how to instruct, at any rate in the elementary stages, could be taught at Sandhurst, I feel that, on joining his unit, the young officer would present a far better foundation for all future instruction. Learning to teach, which is after all the most important thing an officer has to do *all* through his service, cannot commence at too early a period in his career. The great advantage of Sandhurst is that the intelligentsia exists in abundance as the subject matter for such practice and experience. It may not be out of place to mention that at West Point the fact that the American officer in war as well as in peace is largely required as an instructor for civilian or semi-military organizations is fully recognised, and is stressed throughout the course.

The proper way to teach, to demonstrate on a sand table or on a model, to get "things across," are very rarely heaven-sent or heaven-born accomplishments. They require hard work, practice and above all knowledge: it is a difficult art, and requires as much study as any other subject of Military Science. Once an officer is faced with the task of teaching, he has not only to work hard but to learn clearly, so as to crystallise and get his own ideas clear cut. Knowledge is of little use unless it goes with the power of being able to impart that knowledge, and in imparting it in an interesting and understandable form.

There is no need to do more than mention in the briefest way the progressive stages of training, through which every officer passes before attaining command. His first cadre training, the instruction in interior economy, he receives in the first years of his service—and in this connection I would stress the importance of a real knowledge of the Q.M.'s Department—obtainable by a course (at least of three months) in the Q.M.'s Department—invaluable throughout an officer's service and more

especially when actually in command. Many C.Os in the past have had no real knowledge of the Q.M.'s Department, and so have been entirely in the hands of their Q.M. Then on through the annual training seasons, interspersed with various Schools of Instruction, courses, and promotion examinations, until the time comes for him to attend at the Senior Officers' School.

Many of us will have read recently in the R.U.S.I. JOURNAL the discussion on the subject of the merits of the Senior Officers' School. Briefly stated the argument of the first writer was that officers came to the School at such a mature age, and the vast majority so ignorant, and not merely ignorant but so self-sufficient in their ignorance, that only a very small proportion were capable of gaining any advantage from the instruction; that the common tactical doctrine taught at the School had failed to percolate the senior regimental ranks of the Army, and that in consequence the School should be replaced by a College of Tactics, at which all captains in the Army should spend three or four months as a qualification for promotion to the rank of major, so that in this way a common tactical doctrine would be imposed upon the Army. The opposite view was propounded by the second writer who contended that the years immediately prior to appointment to command, were the most valuable to a senior officer for association and discussion with officers of equal rank, that there was no call for a School of Tactics for junior officers in subjects which should essentially be taught by the C.O., and that the instructor at the Senior Officers' School can best inculcate a sound and acceptable method of instruction, first by example, and later by handing over the conduct of discussions to the students themselves.

The discussion was ably summed up by a Staff College graduate who, writing under the heading of "The Toad beneath the Harrow," described at first hand the great value he himself had gained at the School, and though pleading guilty to the accusation of mature age, refuted the charges of ignorance and self-sufficiency, pointing out that, in view of the changes in doctrine due to the lessons of the War, and of the revision of F.S.R. and of our Training Manuals in the short post-bellum period, it was not to be wondered at that a universality of doctrine had not yet become common to all officers of the Army.

As regards the future of the School I agree that when all our C.Os are sufficiently capable and experienced as to be able to train their own officers, the S.O.S. may not be necessary—except possibly as a luxury. But speaking in all sincerity I know and can definitely state that if I had had the advantage of going through a course at this School before obtaining command, my worth as a C.O. from a training point of view

would have been more than doubled. The close association during the course with officers of every other branch of the Service and with senior officers of the sister Services has, apart from any other advantages, by pitting brain against brain, the effect of sharpening an officer's wits and broadening his outlook as regards tactical training and instruction, in a way that would be impossible within the limits of any one unit or formation—and to the purely regimental officer *these* are advantages which *otherwise* are only open to the Staff College student.

10.—SPECIAL TRAINING OF OFFICERS.

There are a few miscellaneous points in connection with the training of officers which I think require consideration.

- (i) In the same way as greater responsibilities have been advocated for N.C.Os, so should junior officers, on every possible occasion, be given the chance of experience and practice of higher rank.

It is a platitude to say that no better way of learning exists than by making mistakes, and frequent opportunities of shouldering responsibilities greater than the normal are the best incentive to enthusiasm and imagination. To put it at the lowest level, if the idea does not commend itself on its own merits, the C.O. can always salve his conscience by the illusion of heavy battle casualties among his senior officers. If, too, the call should ever come for greater assistance to the Territorial Army, during its annual training, in the shape of the loan of officers, not with any idea of usurping command but as guides, philosophers, and friends—in other words as critics, umpires and advisers—let the C.O. be unstinted in sending his best, remembering not only the debt due to the Territorial Army, but also the opportunity thereby presented to his own unit for the testing and education of junior officers in the vacancies so created.

- (ii) And this leads me to the next point. It seems to me that nowadays, especially with the unlikely prospect of another Great War, no officer should contemplate spending his whole career with his unit. *Esprit de corps* is the backbone of the Army, and there is nothing more praiseworthy than loyalty to one's regiment, but, at the same time there is no doubt that "the daily round, the common task," of regimental soldiering for over twenty or twenty-five years tends to a narrowness of mind, and to that analytical outlook on life referred to by the French General Serigny as possessed by so

many officers of the French Army, due to their spending three-quarters of their service in daily barrack routine.

The Staff College, service in the Colonies, in Iraq and in the Sudan, also employment with the Territorial Army, present ample outlets for a regimental officer to gain a breadth of vision, a more extended knowledge and a wider Imperial outlook than are obtainable within his own unit. And the best time for him to seize this opportunity of foreign service seems to me to be after his first three years' service, and before the attainment of field rank. Such a life forces an officer to take responsibility, often to make bricks without straw, and makes him learn at least one language. It is important that we should keep well kindled in the Army the spirit of adventure.

- (iii) As regards attachments, the ideal would be for every officer during the course of his service to do an attached course with an arm other than his own during the Collective Training Season. Financial considerations, security of tenure, especially as regards married officers, and the topographical distribution of the Army, however, render this out of the question. Attachment to another arm is of no value, unless it entails actual command of a sub-unit with an examination by the C.O. of that unit at the end of the attachment.

But there are two suggestions I should like to make:

(a) that the opportunities provided by the large number of officers presenting themselves for the Staff College examinations might be seized upon by making such an attachment compulsory before examination; this attachment might well take the place of the present staff attachment. Apart from the value gained by the individual officer, such a procedure would have the additional advantage of a second report or opinion as to the officer's suitability for staff employment being forthcoming at the end of the attachment, and (b) that at some period during an officer's service, and before attainment of field rank, a fortnight's attachment to the T.A. during their annual training should be made compulsory. Many of our regimental officers have little or no knowledge of the T.A. and such an attachment would go far towards opening their eyes as to its difficulties and capabilities.

As regards other attachments, regimental officers might well be recommended to enquire into the conditions of attachment to foreign armies: a month's attachment to an

Alpine Regiment within reach of the Riviera might appeal to some tastes.

The conditions, too, governing residence abroad to study languages are distinctly generous, comprising as they do a tour of duty for selected officers varying from three months in France, Germany, Italy or Spain, six months in Russia, Persia and Turkey to three years in China and Japan.

II.—THE USE OF THE CINEMA.

It seems to me that in all forms of training greater advantage could be taken in the Army of the possibilities of the cinema, which makes such a very special appeal to young and old alike.

It is common knowledge that teaching by the eye produces better results than teaching by the ear. Many demonstrations during the Training Season are now staged on the actual ground, which involve considerable time, trouble and expense for all concerned, and from which many spectators are able to carry away only a partial impression, whereas with a film repetition is always possible. To the regimental officer films produced by expert hands would be specially valuable in presenting and explaining the tactics of arms other than his own. In fact a great field of progress and reform appears to lie ahead in the skilled use of the cinema for instructional purposes. The development of talking films also presents great possibilities.

To show the possibilities of the cinema, a film has recently been produced dealing with the whole technique of Rugby football. I mention it because it is purely instructional and an amateur effort. It carries the spectator all through the game, starting with technical details—the right way to punt, to tackle, to dribble, to work the scrum—and leading right up to the intricacies of combined play—passing movements simple and complicated, and the various tasks of forwards packing, heeling, winging, and wheeling. Each detail is shown in what may be called natural time—and as often as desired in slow motion.

I understand, too, that the Military College of Science are also using another such instructional film, dealing with the principles of the internal combustion engine, and the construction of the chassis of a motor vehicle.

12.—SUMMARY.

1. At the present time there is nothing much wrong with our principles of Training. It is virile, stimulating, and imaginative. At the same time we must recognise under modern conditions the need of our regimental officers paying

more attention to tactical training in its true sense, the necessity of a broader education and a wider outlook with a view to the continuance of self-education.

2. To make the requisite time for this training and study, a new orientation of the line of demarcation of the responsibilities of commissioned and non-commissioned rank is required, while an overhaul of the regulations dealing with the composition of many Regimental Boards and Courts of Enquiry should be taken in hand.
3. A reconsideration of the relative importance of the Individual and Collective Training periods is required. There exists a necessity of placing quality before quantity in all Tactical Training, since all instruction, which is really interesting, human, and live is assured of success.
4. A revision and re-allotment of the administrative duties performed in many units by the second-in-command is needed, so as to release him for what must be the more important and appropriate duties of his rank.
5. The allotment of greater responsibility to junior officers, their encouragement to seek, at some time in their career, extra-regimental employment, and the question of attachment to other arms of the Service and to the Territorial Army.
6. The possibilities of the greater use of the cinema for all tactical instruction.

In short, it seems to me that we should make every effort towards assisting and smoothing the path of the future C.O. by giving him the opportunity of learning the way to teach and to demonstrate, and the chance of perfecting himself as an instructor, all through his service, starting from the earliest days at Sandhurst, so that when the time comes for him to take over command, he will be fully equipped intellectually so as to tackle what must after all be one of the most interesting sides of his four years' command, viz., the training of his own officers.

DISCUSSION.

INDIVIDUAL COMPANY TRAINING BY W.Os AND N.C.Os.

LIEUTENANT-COLONEL H. N. A. HUNTER: Last year I tried what the lecturer has suggested with regard to the training of officers. For a month I took all the officers of the battalion away from the companies and did many outdoor exercises, while I held lectures on tactics and administrative subjects. During this time one of the companies was completing the last ten days of its individual training. I think I may claim it was a success, and I propose, unless the Divisional Commander has any objection, to try it out next year and to allow the

W.Os and N.C.Os of the company to do the whole of its individual training. It necessitates, of course, a large amount of work on the part of the company commander before the training takes place, because he has to be quite certain that the W.Os and N.C.Os concerned know how to teach and how to run a programme.

ADVANTAGES OF REDUCING THE STAFF COLLEGE COURSE TO ONE YEAR.

COLONEL GERALD DALBY: The lecturer emphasised the necessity of a wider outlook on the part of the regimental officer. Speaking entirely from the regimental and C.O's point of view, I should like to draw attention to the effect of the present limited output of Staff College officers on regimental training efficiency. Naturally, as everybody knows, the regiment sends up of its best, and so we cast our bread upon the waters. But seldom or never do we see these officers back again. It may interest other C.Os to hear that, in the case of nine officers of my regiment who have attended the Staff College since the Great War, these have completed since they left the Staff College forty-eight years' service. Of that time approximately six and half years have been spent in the regiment.

The other effect of this limited output is that the legitimate military ambitions of many of our officers are dulled. I have now six or seven officers of my battalion who are on the Staff College list, and well fitted for staff appointments. I am quite satisfied that fifty per cent of them will never reach the Staff College. The chance is so small; the competition is so great. Thus from the point of view of a wider outlook the prospect for those officers is remote. I know it has been the policy that officers after graduating at the Staff College shall return to their regiments, anyhow for a period. But throughout my twenty-nine years' service I have seen my friends going up to the Staff College and then some crisis intervenes to upset all such policy. They never come back. The obvious remedy, which I know has been considered by the General Staff, is to reduce the time spent at the Staff College to one year, and so double the output of men who can go to the Staff College. In that way, although the quality of the graduate might depreciate from the point of view of his value for command and for the General Staff, the value to the regiment would be most undoubted. I believe that all C.Os would be unanimous in supporting this point of view, since the help they would derive in the technical training and the higher training of their regimental officers would be very great. I believe also they would unanimously vote that these officers, in order to lessen the expense, should be allowed to go to the Staff College unseconded, thereby saving a sum of, I believe, £20,000 or £30,000 a year. While not suggesting that the reserve of our staff officers is adequate for any national emergency that may arise, and speaking entirely from the regimental point of view, I do believe that the wider outlook thus given to regimental officers would really be well worth the slightly lesser individual efficiency of the Staff College graduate.

KNOWLEDGE OF TERRITORIAL WORK.

THE DICTAPHONE AS A MEANS OF TACTICAL TRAINING.

COLONEL CODRINGTON: Speaking as the commanding officer of a Yeomanry Regiment, I would like to support two points made by the lecturer. Firstly, his suggestion in regard to the attachment of regimental officers to Territorial units during their annual training and during the course of the regimental officer's training as such. I am taking another standpoint to the lecturer's in considering the position of the regular officer as an adviser and helper.

Often, if not usually, on arrival as adjutant the regular officer has little or no knowledge of the job he comes to undertake, or what are the conditions under which a territorial unit works. The regular is astounded by what he finds. If, however, the junior regular officer, during the normal course of his career, was taught all about Territorial units, their curriculum and training, their limitations and successes, when his turn came to go out as an instructor or adjutant, he would come to teach instead of first having to learn.

Secondly, I wish to make a humble suggestion. The lecturer mentioned the use of the cinema. Last year I tried an experiment which proved extremely successful. The difficulty we Territorials experience is perhaps greater than in the case of the regular C.O., in that the latter has his officers constantly under his control. We have not; we have to collect them, and, at any rate in a scattered provincial unit, we are successful in doing so about once, or at most twice, a year. Last year we held a course for our officers, and I managed to hire a dictaphone, so arranged that we could take it out in a car. Then we had the junior officers in a drill hall, doing elementary instruction on a sand table made up with a particular piece of country to scale, while I had senior officers out on the same piece of country actually on the road in cars doing a small tactical scheme. I took each squadron leader in turn, and presented him with a piece of paper giving him a certain situation. I then gave him the mouthpiece of the dictaphone and told him to meet the situation and give his orders. We did not stop to thrash out the results at the moment, but in the afternoon we went to the model on the sand table, and each troop leader in turn came up to carry out the orders that had been thrown on to the record of the dictaphone. What one heard was this sort of thing: "Er, take your troop—no, do not do that—do not take your troop—two sections ought to be enough—er—er——"; and so on. The result was not only amusing but instructive. It taught a tremendous lesson in mental agility, and we are being asked to repeat it. I only mention this experiment as a second string to the lecturer's suggestion of the cinema.

NECESSITY FOR PROMOTING A WIDER OUTLOOK.

MAJOR-GENERAL H. H. S. KNOX (Director of Military Training): There is little to criticise in regard to Brigadier Fisher's ideas on training; they are the ideas most of us are trying to work upon. There are two points on which he has laid great emphasis, to which I should like to refer: firstly, the importance of being able to teach; and, secondly, the necessity for a wider outlook.

The lecturer has been dealing with the training of the regimental officer. A regimental officer is always teaching. The first thing a teacher requires, in addition to a certain amount of self-confidence, is knowledge; knowledge includes width of outlook. The two questions, skill in teaching and the acquisition of a wider outlook, are largely one and the same question.

Do we give our regimental officers a sufficiently wide outlook to enable them to fulfil their duties as teachers? I prefer to think of the junior officer. He joins a regiment where he has got to learn the details of his regimental work. If he is ever going to be any use anywhere in the Army, he has got to be first and foremost a regimental officer. I would ask commanding officers not to give the young officer too much repetition in the early stages of his training. Let his outlook be a little wider than constant repetition of ordinary routine duties. There is plenty of room for variety in regimental work. As an example of what I mean: we have to find adjutants for the Territorial Army, if they are to be of real use to the T.A. unit, they should know everything connected with it. An infantry adjutant should

know his machine-gun work, his rifle, his Lewis gun, his physical training, his signalling.

How many regimental officers of suitable standing have had the opportunity of really learning all those things?

I would ask commanding officers to remember that regular officers in a highly trained professional army like ours should have this knowledge and be capable of teaching in a Territorial battalion.

Give your officers that wider outlook at the beginning, and let them have a chance of learning everything connected with their unit. They do not get it now. Some commanding officers say that they cannot spare officers. Is this really the case? Education has progressed by leaps and bounds. We now have in the Army, W.Os and N.C.Os educated as we never dreamed of before the war, and yet we give them very little additional responsibility. These W.Os and N.C.Os can carry out many of the duties now performed by officers.

There is one other point I want to refer to: I see much of the Army at home and have gained the impression that some officers are inclined to be depressed about the Army. I hope I am wrong. Why should any officer connected with British troops be downhearted? Our units are unsurpassed. We belong to a grand profession. We belong to an Army that proved itself in the war. We "produced the goods." We have escaped that stagnation which generally occurs in a regular army after a great war; interest in our profession has never flagged since 1918. There is no reason to be downhearted. You have been told by the C.I.G.S. that this year the training of the Army has reached a high state of efficiency. There is only one thing that might cause depression, and that is inefficiency. We are not inefficient and, therefore, I can see no reason for depression.

DELEGATION OF RESPONSIBILITY TO W.Os AND N.C.Os.

MAJOR-GENERAL CORKRAN: Speaking on a minor issue from the point of view of an officer who has had an opportunity of watching Sandhurst Cadets, I do feel very strongly that the average boy from a public school does not come into the Service with the formed intention of studying his profession, or of going up for the Staff College, the reason being that he has not yet realised the necessity for such study. I think C.Os should be on their guard against trying to "force" young officers too much, to start with, in that sort of way. I would ask them to give a boy a chance to find out for himself the vital necessity of studying his profession. Of course, there are some who cannot, or will not, realise this necessity, and most C.Os are perfectly capable of dealing with this stamp of young officer. But, I repeat, I would ask them to give a boy a full chance of learning to know his men and his responsibilities to and for them, and thus to realise how necessary study of his profession becomes. As was emphasised by the lecturer, human nature is the chief factor to be taken into account in all training for war.

There is one other point I would like to refer to, and that is the delegation of responsible work to W.Os and N.C.Os. I myself am all for it. I have delegated a great deal more to N.C.Os than perhaps I ought to have done in the past, but I think we must remember that, after all, any financial responsibility must fall on to the officer: on the C.O. for the unit; on the second-in-command probably for the P.R.I.; and on the officer sub-unit commander for his unit accounts. Financial responsibility must rest on the commander.

THE CHAIRMAN:

Most of what I had intended to say has been taken out of my mouth either by the lecturer or by the Director of Military Training. But there are one of two

points that I should like to speak to you about. It was suggested by the lecturer that boys join the Army physically fit. Now, may I tell you that that is not entirely the case. It seems to me most lamentable that the physical training of the youth of our nation is so neglected at the present moment. That is a serious matter in the education of the nation.

Colonel Hunter made a suggestion which I think is excellent, namely, to allow N.C.Os to have a free hand for a certain time in the regiment, and from his experiment I hope commanding officers will see that such a thing is possible. I may tell you that it does not seem so very long ago since I and another member of the audience were subalterns together and left our batteries for a whole week in charge of the sergeant-major. That was out in India. I regret to say it was not in order that the officers might receive further instruction, as Colonel Hunter did with his officers, but because we went away on pleasure. That means that as long ago as something like thirty years N.C.Os were capable of running a battery. Surely nowadays, in view of the present education of N.C.Os, they are capable of undertaking that work. You would be surprised if you knew the standard of education of the Army at the present time, and it seems to me extraordinary that those N.C.Os cannot be trusted to do a great deal more than they do at present.

On that subject I should like to say a word on what General Corkran said about not pressing a youth too far. General Knox remarked on the depression that exists amongst some officers. I never can see why such depression should exist. As he said, the Army is a delightful profession, but it is a fact that sometimes there is a tendency to overworking. That is a point that commanding officers should remember.

Again, the question of languages was mentioned, and it was suggested that officers should know one language. May I urge that commanding officers should see that officers do know one language, and I would suggest that that language should be their own.

Colonel Dalby made certain references to the Staff College. I know that for many years past we have always said that Staff College officers when they went to the Staff College would come back to the regiment for a year, and we are really endeavouring to carry that out. The only reason it has not been carried out in its entirety is that it takes a little time to get the system into working order. Actually only about six officers this year will proceed from the Staff College to staff appointments, and in years to come the number will grow less until in due course no officer will take a staff appointment until he has been back for one training season with his unit. I think that will meet some of the objections that have been raised. I believe there is always a call for an increase of staff officers, but there are certain objections which I cannot go into at the moment. The number going to the Staff College, apart from financial reasons, could not be increased. One of the chief reasons is that officers would probably not be able to get junior appointments while they were in the rank to which a junior appointment could be given. It is a point which has been most thoroughly thrashed out, and so has the question of seconding officers. I do not think I can agree with Colonel Dalby that all C.Os would support his suggestion, because, after all, seconding has some advantages. It enabled, as happened last year, three captains from one battalion to get into the Staff College at the same time, an impossible state of affairs under the old regulations when officers were not seconded.

I will conclude by stating that I cordially agree with General Knox in regard to the necessity of an officer knowing everything about his profession regimentally.

There ought to be no such thing as specialist officers. When officers are young they ought to study their profession; they ought to study their regimental duties and become efficient in them; but no officer can study his duties properly if he is taken away for all sorts of things which really are not soldiering. That is a question we are going into very carefully.

There can be no doubt that the officer class is decreasing. The Cadet Colleges are under strength; battalions are under strength; in fact I think the only corps that is up to strength in officers is the cavalry. That means to say that we will have to put greater responsibility on the N.C.Os, for the simple reason that we cannot get officers. I think it lamentable that such a state of affairs should exist. I cannot understand why boys do not go into the Army as a profession. There are lots of plums in it. Some of the best appointments are better paid than in the Civil Service, and we lead a thoroughly healthy life. I fully admit that they will not become rich men as long as they are in the Service, but a large number of them, after Service training, leave the Army, and apparently the training has been so good that they are great successes in civil life. I cannot help thinking that the advantage of Army service and training to a boy is not realised in the schools and by the nation generally. There are two pamphlets, one entitled "The Military Career through the Universities," and the other, "The Military Career through the Military Colleges," which give a short summary of how to get into the Army, what the expenses are in getting in, and what the pay of the officer is. I fear these are not sufficiently known. During the lecture I looked up the pay of a second lieutenant, and I found that his pay on entering the Service compares very well indeed with that offered by any of the big firms to-day for a boy of the same age for the first few years on entering commercial life. I hope all soldiers will do their very best to bring to the notice of parents the advantages of an Army career, and might I say the honour of serving their country.

The customary votes of thanks to the Lecturer and to the Chairman were put to the meeting and carried by acclamation.

A CHANNEL TUNNEL

I.—GENERAL AND ECONOMIC CONSIDERATIONS

By SIR ARCHIBALD HURD.

THE arguments in favour of doing away with the Channel crossing, either by means of a tunnel, a tube, or train-ferry, have been worn threadbare by constant reiteration over a period of upwards of a century, for Napoleon himself listened to them and, as a Frenchman who had fought against us unsuccessfully, was favourably impressed. But the arguments against any such project have never been fully developed except in the privacy of the council chamber, for the obvious reason that problems of national safety, involving the interests and susceptibilities of our own and other nations, cannot be discussed from the housetops. A measure of restraint must be observed in examining the plea that the abolition of the necessity of crossing by sea from this country to the Continent, or, more important, from the Continent to this country, would be to our advantage.

But there are sundry general considerations which may be examined without offence to anyone of any nationality. In these days when some people seem to consider that peace is to be promoted by much talking and handshaking and junketing, it may perhaps be remarked that easy communications do not discourage but rather encourage war. From the Battle of Waterloo down to the year 1914, no British soldier fought on the other side of the English Channel, and we went about our business rejoicing in our good fortune in not being involved in the quarrels of the Continent to the extent of intervention. But the nations living cheek by jowl with each other on the European Continent were continuously at war; Germany made war successively on Austria, Denmark and France; Belgium fared so ill that she came to be known as "the cockpit of Europe" though Belgium has never lacked good communications with her neighbours. The XIXth century was a century of wars on the Continent of Europe, neighbour fighting neighbour. The States of South America which, having contiguous frontiers, should have been most "matey," were repeatedly involved in petty hostilities, which became the byword of the humorist, while the

British Navy and Army were repeatedly required to dictate peace to neighbouring peoples and tribes in India, Egypt and other parts of the British Empire.

There are advantages in isolation—"splendid isolation," as the late Viscount Goschen called it—and especially if that isolation is due to an all-surrounding sea. It was the main purpose of the policy of our forefathers to preserve from limitation all the peculiar blessings of "this sceptred isle"—

This fortress built by Nature for herself
Against infection and the hand of war ;
This happy breed of men, this little world ;
This precious stone, set in the silver sea,
Which serves it in the office of a wall,
Or as a moat defensive of a house,
Against the envy of less happier lands :
This blessed plot, this earth, this realm,
This England !

When proposals are advanced for devising means of eliminating all the undoubted miseries and disadvantages associated *at times* with the Channel crossing, there is a tendency to forget that there are matters of even greater importance than the avoidance of sea-sickness and the doing away with the necessity of changing from train to steamer and steamer to train, or *vice versa*, when travelling to or from the Continent. It is these higher matters, affecting, in the last analysis, our lives and liberties, which bulk most largely, not in the Press, but in the councils of the State when the claims for a tunnel are to be investigated. These larger issues of national policy have been reviewed on several occasions by the highest of all authorities in this country—the Committee of Imperial Defence—which embraces the best political, naval, military and economic knowledge. Each time the verdict has been against a Channel tunnel. It is sometimes objected that the project should not be condemned because "soldiers and sailors" object to it, it being forgotten that in the C.I.D. the "soldiers and sailors" have, until comparatively lately, been merely advisers and have not had the decisive word, which lies with the politicians. But, that consideration apart, whose advice should carry more weight on matters of national safety than that of the recognised and responsible experts, trained to form a judgment on such a subject ?

As recently as 1924 the experts were consulted, the whole case for the tunnel as prepared by the promoters of the scheme being submitted to them. The General Staffs of the Navy and the Army and the Air Force, as well as the Chief of Staffs Committee, declared themselves against

the scheme on grounds which were so conclusive that the Committee of Imperial Defence, over which Mr. Ramsay MacDonald then presided as Prime Minister, at once decided that the project could not be approved. In that decision, in full knowledge of the facts, all the ex-Prime Ministers (except Lord Rosebery) then living—Lord Balfour, Lord Asquith, Mr. Lloyd George and Mr. Baldwin—concurred, presumably for much the same reasons as had influenced Sir Henry Campbell Bannerman in his day. Sir Henry Campbell Bannerman, the least military-minded Prime Minister whom this country has had in modern times, declared that “even supposing the dangers involved were to be amply guarded against, there would exist throughout the country a feeling of uncertainty which might lead to a constant demand for increased expenditure, naval and military, and a continued risk of unrest and alarm which, however unfounded, would be most injurious in its effect, whether political or commercial.” Nor must it be supposed that the scheme has been condemned by one set of experts only; for all the experts over a long period have been opposed to it.

It has been urged that the Committee of Imperial Defence cannot have given adequate consideration to the matter at its meeting five years ago because that meeting lasted only about forty minutes! But may it not be assumed that the members had studied before they assembled the mass of reports which the Prime Minister had called for, including considered statements of the Board of Trade and Ministry of Transport, and that, on coming together, they had merely to record collectively as the supreme authority in matters of defence the opinions which they had formed as individuals? Many of them were anxious to support the scheme; Mr. Ramsay MacDonald remarked in communicating the decision of the C.I.D. to the House of Commons on 7th July, 1924; “I think most of those present, like myself, had approached the subject with a predisposition in favour of a Channel tunnel, but when the evidence came to be discussed it was found that everyone had been forced to an opposite conclusion.” The scheme was condemned, not by insular prejudice, though a prejudice for our insular state is not without merit, but by a body of well-founded opinion which no statesman could ignore.

ECONOMIC CONSIDERATIONS.

It may be urged that the risks associated with a Channel tunnel may be over-estimated and that the commercial and social benefits flowing from its construction would be so considerable as to render it advisable, in view of the present conditions, to accept those risks. It is, in particular, urged that our foreign trade would be encouraged. That plea was examined by the Board of Trade five years ago, and it

was concluded that a tunnel "would have little effect on the foreign trade of this country." The popular idea is that goods would travel from all parts of this country to their destination, even in the remotest part of the Continent, in the same wagons, and that thus transport would be easier, quicker and cheaper. Even if that were true, the converse would also be true; foreign goods would also enter in larger quantities and it may be argued that the advantage would be greater for Continental producers, with longer hours in their factories and lower wages for their workers, than for us. But these considerations are, in fact, beside the mark, for the simple reason that the loading gauge on this side of the Channel is not the same as on the other side of the Channel. The cross section of the Nord Railway loading gauge is 97 square feet; that of the Southern Railway on the Dover-London route 76 square feet, with the result that although British rolling stock could be used on Continental lines, Continental rolling stock could not be used on the British railway systems.

The Assistant General Manager of the Southern Railway has asked: "Is it probable that the Continental railways would for ever be prepared to lose 21½ per cent. of their capacity by permitting the passage over their lines of stock suitable for the English system?" No answer to the enquiry is required. He has set forth the alternatives. The first and simplest would be to have a tranship station either at the English entrance to the tunnel or the French one; at this station all passengers would transfer from English to Continental rolling stock or *vice versa*. As he has observed, the introduction of this change of carriage *en route* would give rise to complaint and to the criticism that it nullifies some of the advantages of the tunnel. The second alternative would be for the Southern Railway Company to spend many millions in alterations to permit the passage of Berne International standard gauge stock from the coast to London, and, in addition, the rolling stock itself would have to be provided. There would be no compensating allowance for the expense in the cross-Channel rates or fares to the Railway Company which would have to find the revenue to cover the charges on the new works out of the rail proportions of the fares and rates of the anticipated increase of traffic, at the very time that their boat earnings would be depleted.

Whether the gauge of the major portion of the Dover-London route could be altered, which would mean that many miles of heavy construction work would have to be undertaken, including possibly a new line into London, with its attendant grave difficulties, is an engineering problem of some magnitude, and one involving, in any event, enormous outlay. But if the reconstruction were carried out, the remainder of the railways in this country would still have their present gauge, so that transhipment

would have to be effected at some point of the journey for all passengers and freight destined for elsewhere than London.

If these problems could be solved, would the expense be justified by the results? As has been pointed out, the problem of ventilating some thirty-four miles of deep tube has a bearing on the number of trains, or human beings, that could be permitted in the tunnel at any one moment: the freight load has to be accommodated as well as the passenger load, and adequate time must be allowed each twenty-four hours for maintenance work to be carried out. Moreover, the cross-Channel traffic, both passenger and goods, is seasonal in its character. Although the tunnel might accommodate the minimum load or something above it, "it is certain," the Assistant General Manager of the Southern Railway has stated, "that at peak times the capacity would not be adequate; it would therefore apparently be necessary to retain some appreciable part of the cross-channel fleet and the port organization and equipment to deal both with peak loads and with those passengers who would prefer sea transit at all times, but this course would probably prove financially unattractive."

Is it conceivable that through a Channel tunnel, we could import any considerable percentage of the food of our population, 130,000,000 meals every day being required, or any large part of the raw materials which we must get if we are to have manufactures available to exchange for our food? Even if the project could be approved on national grounds, and if the engineering problems could be satisfactorily solved, the final consideration would remain. Would a Channel tunnel pay? There is no expert estimate of the expense involved, but Baron d'Erlanger, the chairman of the Channel Tunnel Company, recently stated that it would cost £30,000,000; he added that its gross takings would be £4,000,000 a year, yielding a net income of about £3,000,000 a year, or 10 per cent. return on the capital. In other words, out of every £1 fifteen shillings would be net income! No railway earns anything approaching that percentage of profit. Such a forecast of gross and net revenue, as well as of capital outlay, must be regarded as unreliable.

It is also argued that the construction of the tunnel would provide work for a large number of unemployed over a period of years. It must, however, be obvious that the number of men directly employed in such restricted conditions would be small; and the labour would have to be skilled, since most of the work would have to be done by machinery. The number of men employed indirectly in supplying the machinery, tools, cement and other building material would be greater, but, in view of the time which the construction would necessarily take, this would not greatly affect the unemployment problem, as the work would

be spread over a good many years. Five years ago Mr. Ramsay MacDonald stated that the sponsors of the tunnel scheme estimated that in the tunnel itself about 2,500 men would be engaged on the English side and an equal number on the French side, and that, from first to last, including all the workers, directly or indirectly concerned, not more than 12,000 men would be involved so far as this country would be concerned. Are the problematical interests of 12,000 men to outweigh the risk to the liberties and lives of a population of 43,000,000 and the welfare of the Empire of which this country is the pivot—for a blow at the heart of the Empire would be a blow at the Empire itself?

Finally, it is a matter for speculation whether a journey through an under-sea tunnel, lasting at least three-quarters of an hour in necessarily confined surroundings would be popular with a sufficient number of the public to make the vast expense involved worth while. There is an appreciable proportion of the population of London which objects to the "tube" railway, disliking "the potted air" and dreading a breakdown or other interruption of traffic, imprisoning them for an indefinite time. The average Englishman and the average Englishwoman, coming of sea stock, does not object to, but rather likes, the steamer crossing, even though, when the seas are rough, he or she may be ill. Will such traveller not argue that an hour in the fresh air "under God's heaven" is preferable to three-quarters of an hour or more in a tunnel. There is, moreover, such a thing as train-sickness as well as sea-sickness and of the two maladies the latter, from which Nelson and many other great sailors have suffered, is the least distressing.

Let no more be heard of a Channel tunnel scheme, but let us be proud of the fact that we are islanders, set about by the sea which offers us the most attractive and most healthy form of transport as the increasing popularity of pleasure cruises attests, and provides our commerce with the most convenient and cheapest access to the markets of the world. It is true that the sea is a source of weakness as well as strength. That weakness we have eliminated for a thousand years by maintaining a sufficient and efficient Navy. Invasion in force ceases to be a terror as long as we possess a strong Navy. We shall continue to sleep comfortably in our beds if there is no Channel tunnel and we repose our trust, as islanders, in the Royal Navy, seeing to it that its strength is not sapped on the plea of economy, that the ships are adequately manned, and that our oversea places of refreshment and repair, which are the envy of other nations, are not neglected.

II.—SOME STRATEGICAL ASPECTS

By MAJOR-GENERAL SIR W. D. BIRD.

THE construction of a tunnel under the Channel, some old soldiers are said to argue, would deprive this island of its insularity. This island, rejoin the more lively minds, lost its insularity when the first aeroplane flew across the Channel, and the tunnel, moreover, would in times of war, assuming France as an ally, defeat the enemy's submarines and save this island from starvation more effectively than ever could the British Navy.

The strategic considerations that enter into the value of a tunnel to this island are, however, not quite so limited as the very literal interpretation of the argument attributed to the old soldiers seems to imply. It may be pointed out, moreover, that even supposing Britain's insularity has been lost, in the sense that she has become a comparatively helpless prey to air power, although the tunnel might defeat an enemy's submarines, an enemy's airmen might create more dislocation of traffic as it entered England from the tunnel than submarines in the late war produced dislocation of traffic on the sea.

The actualities of the situation are far from being so deplorable, for the fact that a tract of land is surrounded in the horizontal plane by water has in the past only given its inhabitants some assistance in combating such evils as invasion, raids, bombardments; it has never provided immunity from them. The invention of flying has, of course, reduced the value of this assistance, but has not at the present moment done more; for it is not likely that such action as can now be taken from the air will, alone, cause a great Power to sue for peace. If this be so, big navies and armies are still necessary for complete victory, and the latter have always depended for their transportation on the means—road vehicles, railway trains, shipping—commonly in use in ordinary intercourse, in which aircraft are not yet so commonly employed. It may surely be said, then, that Great Britain's insularity does still exist, but that its protective value has been lessened materially; and that this has come about because a large proportion of the inhabitants of the country are now more liable to be raided and bombarded from the air than those who lived on the coasts were exposed to attack from the sea in the past; and also because, if a hostile power gained command of the air in a large measure, the assistance afforded by the sea against invasion would necessarily be reduced in so far as predominance in the air facilitated the movement of ships and troops over the sea.

One has only to glance at a newspaper to realise that force, not covenants, nor pacts, nor gestures, still forms the dark background of human relationship. Fear does unfortunately still rule in the minds of men, and particularly of those whose fate it is to live in Europe, and this fear must be the excuse for a short examination, from the point of view of the application of force for its security—and this is the main strategic consideration—of the scheme for making a tunnel under the Channel, and of its possible effect on Britain's insularity.

For many generations the British have gone to war mainly, so it seems, for the purpose of keeping up sea power and the trade and possessions that depend thereon. If a tunnel, however, is made under the Channel its security will become almost as important a liability for the British as the maintenance of sea power. For no nation can be indifferent to the safety of a means of communication which is, as a tunnel would be, a great avenue of travel and commerce. If a tunnel is made, the British, then, will have given another hostage, and one of not inconsiderable value, to fortune. And since Britain's strategic frontier in Europe will certainly not be at the northern end of the tunnel, the problem of the defence of the tunnel cannot fail to affect every preparation in time of peace for the use of force in national defence should this be necessary; and if Britain were involved in a European war the problem would be likely to influence every decision that was taken by her government, every combination that was made by it.

The Continental end of a Channel tunnel would be liable to attack from land or air either from the country where it was situated or from another country, the latter in point of probability being a country lying to the east of it. In practice it would, apart from any treaties that have been made, also be very difficult for the British to remain neutral were the countries adjacent to the Continental end of the tunnel to become involved in war. For if traffic through the tunnel were then continued, such action would seem to the people whose territory was more distant from the tunnel to be unfriendly. And if it were stopped this would be prejudicial to the other nation or nations. Such being the case the British would almost certainly be obliged to take sides, and if so the tendency would be to fall in with the countries whose territory was adjacent to the tunnel; since difficulties could hardly fail to arise were these territories to come under new jurisdiction as the result of conquest.

It seems, then, as if the building of a tunnel would shift the strategic centre of gravity in North-Western continental Europe towards it, and that Britain would, in fact, possess what would be equivalent to a footing on the Continent of North-Western Europe, such as Calais was before 1558 and Dunkirk was from 1658 to 1662. And she would

therefore probably be obliged to accept, and that almost in perpetuity, an even greater measure of responsibility than now exists for the security of the areas adjacent to the footing. This responsibility would involve either the provision of larger land and air forces, relatively to those of other nations, than at present ; or some subservience to the policy of the states adjacent to the tunnel, if much reliance were placed on their capacity to safeguard it.

If Britain were involved in another war on the Continent of Europe, and if the Continental end of the tunnel were in or near the theatre of operations, Britain's land and air forces would certainly be more tied to the tunnel than even, in the late war, they were tied to the Channel ports. The security of the tunnel would, in fact, be a first charge on their operations, and no diversion nor indirect attack on the enemy's interests could be made until the safety of the tunnel, which would be a main line of communication, was so far as practicable assured. Much of the power of manœuvre, then, that in the past made Britain so formidable an adversary would be sacrificed, and in this sense she would be deprived of her insularity. On the other hand, if the power of travelling through the tunnel could be maintained, there would be facilities as regards movement to the theatre of war of the forces destined to operate near the tunnel, as well as facilities for their maintenance and reinforcement, and also facilities for the victualling of Great Britain.

There is, however, another side of the question. It is said that international friendships are often ephemeral, and it is necessary, therefore, also to consider the possibility of dangerous friction with the state, or states, adjacent to the continental end of the tunnel. If, as the result of making the tunnel, Great Britain had so increased her land and air forces that the possibility of invasion through the tunnel was discounted, such friction would not be more serious than if the tunnel had never been built. But if Britain's land and air forces were small in relation to those of these states the situation would be more difficult ; for in a crisis, when public opinion was strongly excited, any special measures for the safeguarding of the tunnel might be regarded as a threat, which might produce grave consequences. Britain, therefore, would almost certainly be bound not to take such measures, that is she would be obliged to expose herself to whatever risk there might be of a sudden stroke to gain possession of the tunnel.

The matter can also be regarded from a slightly different outlook, for Britain is not only a European power, and if she were involved in a great war outside Europe for the security of her Dominions or Dependencies, the existence of a tunnel would certainly act as a brake against

striking with all her force. It is indeed only necessary to think of the unfavourable attitude to Great Britain of the European Powers during the South African War to realise how easily governments that appeared to be friendly may become definitely hostile under the pressure of a wave of strong popular feeling, and a similar concatenation of political circumstances is presumably not impossible.

There is still another aspect, for it can be argued that, owing to the ill-will that must inevitably ensue with strong neutral countries over maritime blockade during war, the time has passed already when Britain can afford to rely largely on the slow pressure of sea power to end a conflict with other great powers. If so she is already faced with the necessity of re-adjusting her arrangements for defence in such a way that a quick decision is likely to be gained in a war fought in Europe, and from this point of view a Channel tunnel is therefore desirable for security, provided that traffic through it can be maintained. Great Britain's general liabilities—to say nothing of her political liabilities—as regards defence against attack, direct or indirect, from sea and air are, however, already so great that the prospect of an addition to them, such as would result from the making of a tunnel can, in spite of its advantages, only be regarded with apprehension, and this accounts for the old soldier's belief in the advantages of insularity.

III. A NAVAL VIEW.

By ADMIRAL SIR REGINALD H. S. BACON, K.C.B., K.C.V.O., D.S.O.
(*Vice-Admiral Commanding the Dover Patrol, 1915-18*).

I HAVE always been firmly convinced that if there had been a Channel tunnel prior to 1914 we should have lost the Great War. My reason for this belief is that the Germans, in their first advance into France, must have made the French end of the tunnel their objective. As it was, in their initial rush, they had no other pre-occupation than to get as near as possible to Paris, and by the threat of its destruction, to force the French into accepting their terms of peace. The essence of this programme was speed. They made their rush, were beaten, and retired. Had their advance been more methodical, had they waited a little longer and allowed time for more troops to back up their army of invasion, had they rested their tired men at some place not in Champagne, had they accumulated reserves of ammunition, then the battle of the Marne might have had a different ending.

A Channel tunnel would have been a menace which the Germans could not possibly have ignored. Consequently in their original advance Calais must have been one of their principal objectives. To occupy Calais would have necessitated making good and holding the North Coast of France. It must be remembered that, as events actually turned out, the Allies virtually evacuated the whole of France down to the valley of the Seine as a result of their retreat to the Marne. The British base in France was, in fact, moved from the Channel ports to St. Nazaire during these critical days. The Germans could, therefore, without sacrificing a single man, have seized Calais, Boulogne and of course Dunkirk. But they did not do so in their rush southwards. The race for the sea did not start until after the Battle of the Marne, and in the end the Channel ports remained in Allied hands.

The existence of a tunnel must have affected the enemy's plans, and had the Germans seized and held the Channel ports, their High Command must have recognised the enormous strategic value of the Straits of Dover, a matter they failed entirely to appreciate throughout the war. The position in the Channel would then have been one of extreme danger to us, for, while their battle fleet kept ours immobile, and they were biding their own time to bring their fleet to sea, they could have raided the Straits and the Downs, and made the latter place impossible for shipping.

If the traffic in the Channel had ceased, London would soon have starved, since it could not have been fed by rail from Western ports. Sea traffic to Havre would have been impossible. We should have been obliged to withdraw destroyers and other vessels from the Grand Fleet to maintain a balance of force in the Channel. If they had taken their opportunity in January, 1915, when we had only a margin of two Dreadnoughts more than the German battle fleet, and eight pre-Dreadnoughts less, we might have been badly smitten if the already inadequate number of light cruisers and destroyers had been further diminished.

So far as the work at Dover and Folkestone was concerned a Channel tunnel would have been little if any assistance. We had no difficulty in keeping up an uninterrupted service from both those ports to the Continent. So far as I know, no inconvenience was caused to our Army by any delay in the supply of reinforcements and ammunition, or in the evacuation of the wounded. Whether an equivalent number of men and goods could have been transported by the tunnel is extremely doubtful.¹ A single accident or breakdown in the tunnel would have

¹ One investigation of this problem is reported to have led to the conclusion that eleven tunnels would have been necessary to replace cross-Channel shipping in the war.—EDITOR.

had a far more serious effect on the amount of goods transported than the sinking of several ships. Too many eggs would have been in a single basket ; and in the event of a serious breakdown in the tunnel, sea transport could not have been efficiently improvised.

We all of us hope that there will be no war in the future ; at the same time years must elapse before we can say definitely that human nature will have changed so completely that all differences will be as amicably arranged as our optimistic enthusiasts expect. In the meantime, the wise nation will keep its arms ready, and not allow them to be converted into ploughshares. If Germany should again invade France, a contingency which cannot be ignored, the German General Staff will not repeat the mistakes of 1914, and a Channel tunnel, if in existence, would be one of their first objectives. Let it be hoped that we, in our turn, will not repeat the strategy of 1914, but use our Army to hold Belgium and operate on the flank and rear of the German Army. We may be perfectly certain that Germany will not be as lethargic at sea as in the late war ; but will have learned how to use her sea forces. If this comes about we will most certainly lose the war if we again allow her to occupy and hold Ostend and the Belgian coast.

If the Channel tunnel is constructed, and the Germans make a dash for it, it will be flooded by one side or the other, and will be useless. If they do not do so, it will be able to do a certain amount of transport work, but still the major part will be sea-borne.

War is usually won by the side that makes the fewest mistakes ; in the last war it was a close competition in this respect between ourselves and Germany. We won by a short head, owing to her utter incapacity to grasp sea strategy. A Channel tunnel might have supplied her with just that incentive which would have turned the balance in mistakes against us and thereby caused us to lose the war.

IV.—ITS RELATION TO AIR POWER

By AIR-COMMODORE J. A. CHAMIER, C.B., C.M.G., D.S.O., O.B.E.

THE influence of the construction of a Channel tunnel on aviation may be considered under the heading of " Military Aviation " and " Civil Aviation," but it will be shown later that the two aspects interconnect to a greater degree than at first sight seems likely.

From a military point of view, the invasion of any country by a single narrow defile has always been, and must always be, an unattractive operation of war. These hazards are greatly increased when the defile

in question takes the form of a long narrow tunnel under the sea, comparatively easy to destroy. To-day air power makes such a plan still less attractive.

In the first place air power gives an enemy the ability to attack the heart of the civil population of his adversary without incurring the risks attendant on invasion. It is possible, as Marshal Foch said in his oft quoted dictum, that such pressure on the civil population may prove decisive, and may induce the country attacked to make peace while it still has armies and fleets intact.

Secondly, if it be assumed that the enemy has seized the exits of the tunnel on foreign land by surprise, and has possessed himself of the mining gear or flooding apparatus by which the tunnel should have been blocked, the debouching of the invading forces will be made extraordinarily difficult if the defence has adequate air power. Modern aircraft and modern aircraft bombs could wreck, temporarily, the exits of any tunnel, and even if the exits were cleared, the maintenance of the invading forces would be subjected to constant interruption. It is almost incredible, therefore, that so hazardous a plan as invasion of this country through a Channel tunnel could appeal to any nation.

From the foregoing brief argument, it would appear that the advent of aviation has removed a possible, if remote, objection to the construction of this tunnel, but from the point of view of civil aviation we must look at the subject in broader perspective.

Great efforts are being made at the present time to make the nation air-minded, and the reason underlying this is that unless a nation has an air-minded and air-faring population, it is unlikely to become a great air power. It is unnecessary to labour this argument, the analogy of sea power is sufficient. Unless we had been an island with a large seafaring population, we would never have produced a large mercantile fleet; and without the large mercantile fleet, we should not have had the sea-going knowledge and the constructional yards which have enabled us to excel in naval warfare.

Now, a fleet takes years to produce, and therefore one decisive naval engagement may affect the whole subsequent trend of a war. Aircraft, on the other hand, are rapidly built, and a heavy defeat in the air in the early stages of campaign, is remediable by great effort, because a new air fleet may be rapidly produced. Apart from the question of such a catastrophe, however, there is the question of wastage. The peace wastage of an air fleet, including accidents, age and obsolescence, is not more than 100 per cent. per annum, and with modern metal machines may be appreciably less than this; but in war the wastage rises to an enormous extent, and it may easily be six to ten times the

peace wastage. In other words, it is absolutely necessary that there should be an aviation industry capable of turning out military aircraft with extreme rapidity in case of war, at a rate of, say, ten times the peace production of such craft.

It must be clear to everybody that the only way to have an organization capable of this large output in war is to have a strong industry engaged in manufacturing civil aircraft, and capable of turning over to the manufacture of military aircraft when the emergency arises. Nothing else but a skilled aviation industry will suffice. America found this when she entered the late war, and with all her drive and organizing ability, her industries of that day were not capable of turning out aircraft to take their part in war until two years had passed.

The greatest danger to these Islands at the present time lies in air attack. Air attack can only be met by air counter-attack, and by air defences assisted by ground defences : in short, air power is the antidote to air attack. Air power is dependent on air-mindedness, and it should be the object of the Government to foster air-mindedness by every means in its power. But the fostering of civil aviation is an expensive proceeding : the time will come when civil aviation can, as Mr. Churchill says, fly by itself, but while it is still in its infancy, Government subsidies appear necessary. And so it is difficult in this age when economy is pressing as a result of the expenses of the Great War, for the Government to do more to help civil aviation than it is doing at the present day. But if it is difficult to spend more money on civil aviation, it is at least possible to refrain from doing anything that will strike a blow at it, and a Channel tunnel would be a serious blow to civil aviation.

At the present day the journey by train from London to Paris takes about $7\frac{1}{2}$ hours. One hour of this is spent on embarkation and disembarkation, and $1\frac{1}{2}$ hours in the boat crossing. If this tunnel were built, the time would be reduced to, say, $5\frac{1}{2}$ hours. The reduction in time of the train journey would certainly permit of the business man doing more work on the day of travelling at one end or other of the journey, but assuming that the railway gauge is uniform throughout, and that the journey can be done without changing, the tunnel would mean more than that. It would give a vast impetus to crossing the Channel by night, because it is the embarkation and disembarkation in the middle of the night which deter passengers from following this course at present. In fact, the journey by night would probably be more attractive than the journey by day, because the travelling under the sea, which some people might look upon with distaste when awake would be done unconsciously during the night hours. Such a link with

the Continent must be expected to react unfavourably on the cross Channel air services.

At the present moment less than four passengers out of every hundred who cross the Channel travel by air. Of every four of these air passengers it is believed that one at least uses this means of transport for the sake of the novel experience and is making his, or her, first, and possibly last aerial voyage; one is probably travelling to avoid the changes and queues at Dover and Calais; one is afraid of a rough crossing; and one is a business man in a hurry, who takes a book as soon as he gets into the aeroplane and reads throughout the journey. If this analysis is even approximately correct, it will at once be seen how seriously the Channel tunnel will affect such a service. It is hard to say where the attractions of air travel will lie, and a large proportion of the traffic at present carried seems bound to be diverted to the railway. It is true that the present aerial service will eventually be expedited. At the moment, the journey by air and road takes approximately 4 hours, and with faster aircraft, and better arrangements, such as tubes or railways from the terminal aerodromes to the heart of the towns, the time might be reduced comparatively easily to $2\frac{1}{2}$ hours. This will undoubtedly appeal. The business man will be able to meet his business associate within 3 hours of making the appointment, and can return the same day, if necessary, after having had his important conversation; but the average traveller will not be affected, and one can scarcely visualise aircraft fully loaded with passengers crossing the Channel regularly in competition with a through railway service, using the tunnel.

It may be argued that the London to Paris air service is not the beginning and end of civil aviation. Our Imperial Airways will spread to the most distant Dominions; but the proportion of Britishers who have to travel far abroad is not great. The importance of the cross-Channel air service in a small country like ours, already well provided with internal communications, is that it is the readiest method of making our travelling population air-minded. It brings the whole potentialities and practical utility of flying to the doors of the greatest proportion of our citizens, and no amount of distant Empire air services will have the same direct influence on them.

Considered from this point of view, the Channel tunnel would be a very serious menace to the growth of civil aviation, and in menacing civil aviation, it would seriously menace our air security. In other words, at a vast cost we would be putting a rope round our necks; for a fraction of that cost a great impetus could be given to civil aviation. For example, aerodromes could be built on the roofs of our large railway termini; there is nothing impossible in this from a constructional point

of view, and any air photograph of large railway stations will show that the space available is adequate. The possibility of having aerodromes on the roofs of railway stations must not be lightly dismissed as a dream. Think of the advantages of such aerodromes. The intending passenger would drive up in his taxi-cab to the station he was accustomed to use. Under all reasonable weather conditions, if he was in a great hurry, he would book by air and his luggage would follow by train, arriving at the destination in time for the night. If the weather conditions, such as fog, prohibited flying, he would have to be content with the slower mode of transport from the same station as that from which he would have travelled by air. The railway companies, who would be assumed to be associated in the operation of these air services, could reduce the speed of their express trains, since express traffic would be air-borne traffic, and in reducing the speed of those trains they would effect economies which would go far towards the maintenance of the air traffic. If such a scheme were adopted it need not be confined to London only. Similar terminal aerodromes could be constructed in the hearts of other large cities, and we would at once see an enormous increase in air traffic with an immediate and direct influence on our safety in case of war.

How much better to spend money, if money is to be spent, in assisting this new form of travel with all its potentialities, and with all its assistance to our national safety, rather than to throw away a vast sum in a project which will tend to throttle aviation and make us a third class air power.

THE AIR MENACE TO GERMANY

The following extracts, translated from the Militär Wochenblatt, are typical of the arguments now being adduced in a section of the German Press to emphasize the danger of her defencelessness against air attack. They are interesting when compared with the somewhat similar propaganda in this country to show Britain's defencelessness against Continental air attack.

It may be observed that Germany has a large and ever growing civil flying organization, and German run factories in Europe are producing more and more aircraft of German design.—EDITOR.

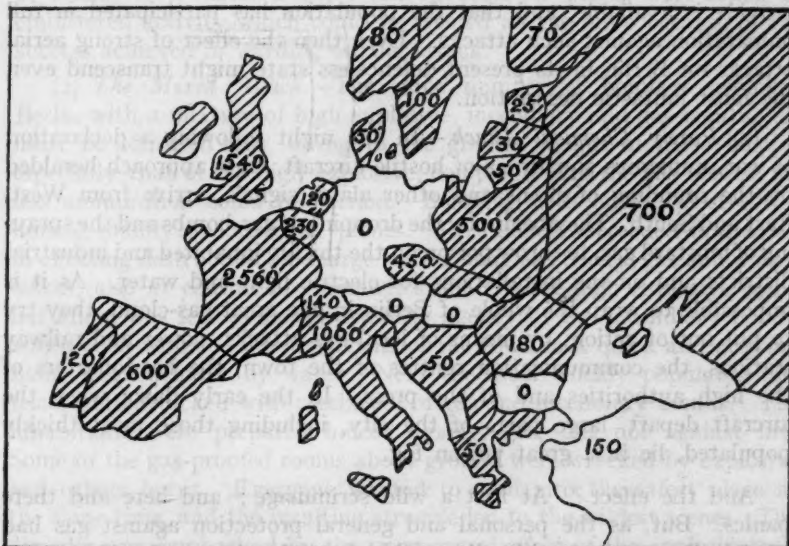
I. AIR WAR AND AIR PROTECTION.

(Extracts from an article in the Militär Wochenblatt of 4th February, 1929).

It was represented at the Conference held at Frankfurt to discuss gas warfare that the whole aspect of war is being changed by the use of chemistry, that remedies for this are impossible and that some common action is essential to forbid the use of gas. This attitude exaggerates the importance of this form of attack. After the war American doctors proved that it was not so fatal as other methods of warfare, and only 2 per cent. of the men gassed died from its effects. What is far more important is Germany's defencelessness in the middle of well-armed and hostile nations, and we should turn our attention to aerial warfare, and not to the problems of gas.

The accompanying diagram shows the aerial strength of the countries of Europe, the figures denoting the number of war aircraft belonging to each nation. It will be remarked that the middle European countries alone are entirely defenceless in this respect. Moreover, the radius of action of modern aircraft is so great that French machines could reach the Elbe and accomplish the return journey. In practice, however, there would be no real necessity for them to return, as they could fly on and land in Poland, or Czechoslovakia, and there take on board fresh ammunition, etc. There is, therefore, no district in Germany which could not be invaded by air within a very few hours. She is completely surrounded in this respect.

Austria, Bulgaria and Hungary share this defencelessness, which will not be overlooked by enemies. A Congress should be called to go into the treacherous treatment Germany has received in the Versailles Treaty in respect of disarmament, and this should be the aim of all political parties in the country. On 17th November, 1928, the French Minister of War said: "A disarmed nation is a temptation to all its neighbours, and has no standing in a League of Nations." In the Italian "Rivista Aeronautica" of September, 1928, it says: "Only with a strong air force is it possible to protect the country, fleet and army from air attack."



II. GAS ATTACKS ON CITIES.

(Translated from the *Militär Wochenblatt* of 25th December, 1928).

THE employment of chemical means of warfare, not only against hostile military forces, but also and especially against a civil population, crowded in centres of industry and trade, is generally regarded as a very promising method of opening a future campaign. In discussing the matter, however, the actual effect of irritant and poisonous gases employed alone is frequently much exaggerated. Where there exists a suitable, and even perhaps only a passive, organization for defence against gas, no annihilating effect need be expected from an

attack in which gas-bombs alone are used, even if the hundreds of bombing planes which exist in the imagination of so many minds should be actually available. On the other hand, aerial attacks might cause the most terrible catastrophes were gas, high explosive, and, above all, incendiary bombs to be dropped in large quantities on capital cities. It is proposed to consider both forms of such attacks—pure gas attack and mixed attack—directed against Berlin and to compare their probable effects.

It is only possible to make such a comparison on the presumption that at least every kind of passive protection which modern science can provide is available, and that the population has participated in full preparation against such attacks. Even then the effect of strong aerial attacks on Berlin in its present defenceless state might transcend even the most fantastic description.

(1) *Purely Chemical Attack.*—In the night following a declaration of war, numerous squadrons of hostile aircraft, their approach heralded by the sounding of sirens and other alarm signals, arrive from West, East and South. They begin, by the dropping of gas-bombs and the spraying of mustard gas, to throw poison on the thickly inhabited and industrial districts and on the installations for electric light and water. As it is impossible to wrap the whole of Berlin in one great gas-cloud, they try to put out of action, by means of local gas attacks, power and railway stations, the communication centres of the town, the headquarters of the high authorities and of the press. In the early dawn when the aircraft depart, large parts of the city, including those most thickly populated, lie in a great poison fog.

And the effect? At first a wild scrimmage; and here and there panics. But, as the personal and general protection against gas had been well organized with all possible foresight, it was found possible to ensure the safety of nearly the whole population, crowded together though they were in a bond of common suffering, and also to keep the power stations in action. Everyone used his well fitting gas mask, to which he was accustomed by constant practice and in whose certain protection he believed; and this proved the best safeguard against panic. Besides, gas-proof rooms had been built by the thousand as places of refuge and furnished with all the latest appliances. These were to be found partly underground and partly above ground, in the latter case the rooms being specially protected. Ventilation was afforded by the provision of draughts of fresh air from higher levels or, in the case of the underground rooms, by an arrangement for the supply of air independent of outside draughts after the model of the system for clearing the air in submarines. The fleeing multitude reached these gas-proofed

rooms by wide tunnels also protected against gas and guarded by men in masks to prevent a crush at the entrance. The power stations, served by comparatively few men, continued to function, as arrangements had been made for gas-proof cover and the individual protection for all workers. Thus no interruption occurred in the light and water systems.

A number of deaths and disturbances naturally took place. As, however, the steps taken for the distribution of information and for the organization of traffic proved successful, no lasting damage was done to the arrangements for mobilization; and the population, instead of taking to a senseless flight and shouting for peace, were stung to embittered activity which could be trusted all the more because of the success achieved in warding off the attack.

(2) *The Mixed Attack.*—The same number of bombers attacked Berlin with a mixture of high explosive, incendiary and gas-bombs. It must be admitted that, owing to the greater weight of these bombs, especially that of the high explosive, compared with the gas-bombs, far less ammunition could be carried. Bombing with high explosive was limited mainly to important points. This attack succeeded first of all in effecting destruction on a large scale among electricity, gas and waterworks, also at centres of communication. What high explosive could not effect was left to the devastating agency of the incendiary bombs which soon wrapped great portions of the town in a quick and growing flame unquenchable by water. Next the most thickly populated districts were attacked with a mixture of gas and incendiary bombs. The inhabitants were prepared indeed against gas, but not against fire. Some of the gas-proofed rooms above ground were wrecked by explosive and others burnt. Everyone wanted to rush into the safest place at the same time, and the resulting struggle led to the wildest scenes. The disorder was emphasised by the great moral effect of the explosive and incendiary bombs. Finally, there ensued a mad stampede into the open country. Anywhere out of this hell! The general disturbance and the failure of all lighting systems and of all arrangements for putting out fires naturally suggested to the mob that it was time to rob and murder. Buildings belonging to officials, banks and newspapers were destroyed, while damage to communications prevented any measures for help being undertaken and also impeded the movements of the crowds. Most of the waterworks, power stations and factories were destroyed; in others no one was left to keep them in action. Destruction of life and material was so great that it would be impossible to make it good in any reasonable time, and the possibility of a recurrence of this horrible night robbed the people of the courage to hold out. A deadly blow had been dealt to Germany before even a shot had been fired in the war.

The following conclusions may be put forward :—

Gas bombs are only dangerous to life. They destroy no material. They cannot put machines or communications out of action. Passive protection is a sufficient guard against them, at least in theory, provided proper precautions be enforced. The introduction of gas protection for everyone in civil life is in the main a matter of organization and finance, though involving an enormous amount of work not to be done in a day. One of the greatest difficulties in this connection, especially in Germany, would be to overcome the strong instinctive objections of the people against a general measure of gas-protection.

The mixed bomb attack is a danger both to man and material. Its moral effect and the unquenchable fires caused thereby make it particularly dangerous. Passive defence is of no use. Active defence may weaken but hardly prevent it with certainty. On the other hand, although the gas-bomb attack makes by far the best use of the carrying capacity of aeroplanes and may be most effective if the opponent has neglected all suitable precautions, it may be a complete failure should it strike a people fully prepared. The mixed-bomb attack, however, operates with an absolute certainty of success. There is no real antidote. Even opposing aircraft can only hinder, not prevent it. It may in consequence never take place owing to the fear of reprisals. That presents the only though doubtful deterrent to an attack on the civil population. In the case of Germany, the deterrent does not exist because we have nothing wherewith to take revenge.

If we consider these matters in connection with France and England, the probability arises that in war-time Paris and London would both go up in flames at the same time and both be in great measure destroyed. In this mutual certainty of destruction there resides a considerable measure of security for both states, since governments would long hesitate before committing their countries to a war under such conditions. It requires no great stretch of imagination to picture the state of Europe if all nations were to be allowed to enter upon such a struggle for extermination. Already owing to the effects of former wars, and more especially of the recent World War, the prestige of Europe in relation to the rest of the world has fallen considerably, almost in fact to vanishing point. Everything therefore emphasizes the importance of a general European understanding before it is too late. The incredible fact that German speaking Central Europe is for an indeterminate period to remain defenceless can only end in the bankruptcy of Europe.

NOTE.—The above article evoked from an anonymous writer an objection published in the "Militär Wochenblatt" for 18th February this year, of which the following is a summary :—

After appreciative reference to the article, the writer remarks that similar aerial attacks might be launched against other German cities besides Berlin, although the latter might be singled out by the enemy for his principal objective.

But in one respect, which amounts to a matter of principle, he disagrees with the previous author's deductions. Berlin, he says, is not Germany, and so a successful air onslaught on Berlin need not cripple Germany. Germany, regarded as a whole, possesses sufficient leaders of experience to organize and to command the German fighting services, to administrate the country and manage her industries, even in the event of the annihilation of Berlin. In such a case, a new governmental machine would arise in some lesser centre of Germany's life, for Berlin constitutes but one sixteenth of Germany's population.

The same writer notes this tendency to assume that Berlin signifies Germany as a whole in the manner of regarding the mass demonstrations of the Berlin Socialists. Even when an imposing crowd of 30,000 or 40,000 Socialists succeed in holding an impressive meeting, it may easily be forgotten that these do but represent a fraction equal to one two-thousandth of the entire population of Germany.

Nevertheless he ends by emphasizing the necessity for studying the best methods of combating air attacks on German centres of government and industry, in addition to devising emergency measures for carrying on the functions of any destroyed seat of government or of industry.

THE BOARD OF TRADE AND THE FIGHTING SERVICES

By E. J. FOLEY, Esq., C.B.

On Wednesday, 9th January, 1929, at 3 p.m.

VICE-ADMIRAL W. W. FISHER, C.B., C.V.O., Deputy Chief of the Naval Staff, in the Chair.

THE CHAIRMAN introduced the lecturer, adding that Mr. Foley had served many years in the Admiralty and also in the Board of Trade both in peace and in war.

LECTURE.

I desire to state that the responsibility for the statements made in this lecture is entirely mine and not that of the Board of Trade or of any other Department.

What the Fighting Services are is known to everybody here, but the Board of Trade may require some definition for this audience. The Board of Trade is now, as it has always been, an emanation from, or a Committee of, the King's Privy Council. Such a Committee was necessary to relieve the Privy Council of the difficult, tedious and complicated task of dealing with merchants' complaints and of protecting England's overseas trade interests. The first Committee of the kind that has been traced was appointed in 1621, and with varying fortunes such Committees were from time to time formed to deal with questions touching trade and plantations (as the Colonies were called) up to 1784. But the plantations work very much overshadowed the trade work and the Committee fell into disrepute for reasons into which we need not enter. It is, however, worth while to quote Burke's indictment of 1780 when he described the Board of Trade as "a sort of gently ripening hothouse where eight Members of Parliament received salaries of £1,000 a year for a certain time in order to mature at a proper season a claim of £2,000."

One piece of work carried out by the Board of Trade in the XVIIIth century may be referred to. The Settlement of Nova Scotia was organized by the Board of Trade under Lord Halifax, whose name was given to the capital of the Settlement. Every detail of this Settlement was planned and carried through by the Board of Trade with an energy

and efficiency which suggests that at that time they cannot have been the impotent and incapable body which was the object of Burke's satire thirty years later, but the difficulties caused by the hybrid nature of the Board, half-way between an advisory and an administrative body, are shown by the fact that when, in 1750, the Nova Scotia transports were being prepared in all haste to take over the first settlers and the Board of Trade asked the Admiralty to give certain necessary orders, the Secretary of Admiralty replied that Their Lordships would be pleased to attend to this if they should receive orders from a source which had the right to express the King's pleasure.

In 1783 William Pitt came into power and he appreciated the absolute necessity of establishing a permanent and well-equipped organization to deal with trade matters as part of the machinery of government. He re-appointed, remodelled and strengthened the Committee of Council for Trade and Plantations and he equipped it with a proper staff to enable it to carry out his new commercial policy of trade treaties with various countries. It is perhaps not generally known that the Archbishop of Canterbury, who was added to the Board at this time and, since the 1786 Order-in-Council has never been altered, remains a member, was so appointed because appointments to Colonial bishoprics and other ecclesiastical matters remained with the Committee on Trade and Plantations after most of its other functions with reference to Colonial appointments passed to the Secretary of State.

From that time the Committee developed from a sort of standing commission on trade and industry into an administrative department of the State with an organized secretariat and a Cabinet Minister responsible for policy.

At the present time the Board of Trade is responsible for dealing, so far as the Government is concerned, with matters relating to trade and industry. It deals with commercial policy generally, commercial treaties and negotiations and international questions affecting British trade. It administers statutes concerning merchant shipping and seamen, bankruptcy, joint stock companies, gas, key industries (including dyes), weights and measures, patents, designs, trade marks and copyright, and mines and quarries. It administers the Coastguard and also exercises control over the principal lighthouse authorities of the country, and, in the interests of navigation, over the construction of works on tidal lands, protects Crown and public rights in foreshores, and collects and publishes statistics of the trade and industry, shipping and navigation of this country, its Dominions and Protectorates, and foreign countries, as well as particulars of customs tariffs, regulations, etc. The Food Council is attached to this Department. Further, and I want to lay

stress on this, the Department arranges the provision of all sea transport required for the conveyance of personnel and stores by the fighting Services and other Government Departments. It deals with questions relating to petroleum and publishes a weekly journal of commercial information. In addition, it undertakes duties arising out of the late war, e.g., the liquidation of commitments entered into during Government control of food, shipping, timber, etc., and also out of the various Treaties of Peace, e.g., the settlement of certain classes of debts between British and ex-enemy nationals, and of claims by British nationals for the restitution of and/or compensation for damage to British property, rights and interest in ex-enemy countries and the preparation of certain classes of claims for reparation payments. Jointly with the Foreign Office it controls the Overseas Trade Department.

It will be seen from that statement that the Board of Trade has a pretty full plate, and it is certain that Burke's indictment of 1784 would be as irrelevant to-day as the famous observation of a clerk of the staff of the original Committee in 1759, that his attendance on his official duties was "vastly easy and genteel."

So much in general terms. Now what has this great office, with all its many duties, to do with and for the fighting Services?

I think we shall all agree that wars since the Napoleonic era have more and more taken on the character of national struggles as contrasted with the purely dynastic campaigns waged by professional armies to which Europe was accustomed before Napoleon showed what war really meant when a nation gave its mind to it. Our experience in the last war proved that in any major war the whole force, wealth and influence, the whole of the resources and capacities of the nations concerned will be brought into the conflict. The recent French legislation bringing the whole of the nation into the fighting line, directly or indirectly, is the logical consequence of these conditions. These wars, while they make certain demands upon the whole nation, make their heaviest calls, apart from actual physical fighting, upon the great industrial and commercial organizations upon which such a nation as ours depends for the means of life. But it is precisely with many of those organizations that the Board of Trade has in its ordinary work to deal. It is, therefore, to the Board of Trade that we shall have to turn for a great deal of the information and a great deal of the administrative machinery which it will be necessary in war-time to apply to the fighting needs of the country. For, if the fighting Services want, as they do want, ships, they will have to get them through the Transport Department of the Board of Trade. If they want food, so far as this cannot be got in the normal way, they will have to get it with the help of the Food Organization

of which the Board of Trade holds the nucleus. For the materials of war the Industries and Manufactures Department and the Statistical Department of the Board of Trade will be necessary allies. For knowledge of the legal and contractual relations of this country with foreign powers in matters of commerce, the Commercial Treaties Department of the Board of Trade is required. For fuel, whether coal or oil, the Mines Department and the Petroleum Department of the Board of Trade will be needed. For the commercial information on which satisfactory blockade measures depend, the Statistical Department again will be needed, while at the end of the passage the Services will find the Bankruptcy Department ready to help them to liquidate their liabilities !

In all these questions and in others, which I must not dwell upon, such as those relating to communications, whether wireless or cable, the Board of Trade has services to render to the fighting Services and it is one of the heavy and growing responsibilities of the Board to keep in mind and prepare in peace time for the duties it will have to perform in time of war.

It is clear that some of the functions of the Board of Trade in relation to the Services are of an advisory and intelligence character rather than directly executive in their scope. Others, however, including those of very great importance, are directly executive ; that is to say, they necessitate the Board of Trade by its own executive and administrative acts, performing definite functions as part of fighting operations. Clearly the supply of fuel, whether coal or oil, the supply of food and the supply of merchant tonnage for the Services are, or may be, of this kind. Direct action by the Board of Trade in the matter of food and fuel supplies would only arise if the Services were unable to obtain supplies through the usual channels. But it is worth remembering that, even in the earliest stages of the last war, the Board of Trade took over the supply of frozen meat for the Services and that special measures had to be taken through the Petroleum Executive to secure the supply and proper distribution of oil and its derivatives, while the Coal Control Department of the Board of Trade had to look after the supply of coal.

But it is when you turn to the question of shipping that you come at once to direct action by the Board of Trade both in peace and war. In view of the importance of shipping to our national life and of the responsibilities of the Board of Trade to the Services in that respect I had better indicate generally what are the Board's functions *vis-à-vis* the Merchant Navy. Its functions under the Merchant Shipping Acts are perhaps fuller and more detailed than those of any other Government Department which has to deal with a great industry.

Thus, every British ship must be registered unless she does not exceed 15 tons burden, the registration consisting of noting in the Board of Trade register detailed particulars of the ship, her internal construction, tonnage measurements, name of Master and the like. Evidence has to be produced that the ship belongs properly to the person registering her, e.g., by Bills of Sale, official condemnation in prize, etc. Every British ship has to be surveyed by the Board, this involving a very detailed process of measurement, to arrive at her various tonnages. Ships cannot be transferred from one owner to another without approval of the Board. Similarly, mortgages on the ship have to be registered by the Registrar-General of Shipping. Ships cannot change their name or alter their tonnage, port of registry, etc., without Board of Trade approval. The managing owner must be registered at the Custom House of the port of registry.

The Board is responsible for ensuring that ships carry properly certificated Masters and lays down also which of the officers must be properly certificated. It holds examinations in order to grant certificates of competency to Masters and officers, is responsible for protecting apprentices in the sea service and for ensuring that seamen are properly obtained, engaged and fed and that their wages are properly paid, and that in the case of deceased seamen their property is properly disposed of. Similarly it is responsible for ensuring that destitute seamen and seamen left at ports abroad are properly cared for and disposed of and, in general, looks after seamen in almost a grandmotherly fashion on a theory which was probably more justifiable years ago than now, that the seaman is an innocent, incapable of looking after his own affairs.

The Board is responsible for surveying passenger and emigrant ships while they are running to ensure that they are kept up to a proper standard, and that every reasonable precaution is taken to secure the safety and health of the passengers at sea. It also supervises the kind of cargo ships can carry and ensures that dangerous goods, e.g., explosives and inflammables, are carried with all possible reasonable precautions.

There are many other matters in which the Board of Trade exercises supervision over everything to do with the ship as a ship and as a carrier of passengers and goods, but the foregoing will perhaps be sufficient to show how very extensive this supervision is.

So much for the general responsibilities of the Board of Trade for merchant shipping.

Now, within the Mercantile Marine Department is the Sea Transport Department. This latter, before and in the early days of the Great War, was the Transport Department of the Admiralty, that is to say, the

Department charged, as it still is, with the responsibility of supplying the needs of the Services in all matters of sea transportation.

In peace time that work is of an ordinary business character and consists of making the arrangements for moving by sea such personnel and material as the fighting departments require transported in the cheapest way compatible with efficiency. Incidentally, to avoid misapprehension it should be stated that, not only the Services, but other Government departments look to the Transport Department to make similar arrangements for them.

In time of war under modern conditions the work of the Transport Department is very important and very great. Not only has it to meet the enormous direct demands of the fighting Services, but it may have to provide shipping for a very large portion of the ordinary civilian supplies of the country. During the last war this work became so heavy and the control which had to be exercised over the mercantile marine of the country so extensive, that it was found necessary to create a Ministry of Shipping, with all the powers and organization of a first-class Government department. Why this was necessary and why, after the war, the Transport Department was placed in the Board of Trade instead of reverting to its immemorial home, the Admiralty, is worth considering, though I cannot go into the matter at length.

There was no suggestion, in view of the success of the transport of the Expeditionary Force and of the manner in which the numerous demands of the Services had been met, that the Admiralty had in any way failed to carry the responsibilities in the matter of sea transport which it had borne for centuries. But, briefly, it may be said that the fact that Government cargoes carried in requisitioned ships were usually outward cargoes and that the demands for shipping for various war and civilian supplies rendered it necessary to use these vessels on their homeward run made it more and more impossible to separate the Admiralty's control of tonnage for the fighting Services from the general control of tonnage necessary to meet all national needs. In fact, by 1916, the Admiralty, having started to fulfil its normal function of providing mercantile shipping for naval and military purposes only, had been forced to interfere with freight rates, to decide directly or indirectly what commodities the country should be allowed to receive by sea, and generally to control, through the agency of the Transport Department, the use of practically the whole Mercantile Marine of the country. The Admiralty had got into this position, not because it desired to do so, but because the demands on shipping were so heavy that it was not possible to separate the provision of shipping for naval and military purposes from the control of shipping for civil purposes.

The two could not be separated because, as has been said, naval and military shipments were chiefly outward and commercial shipments were chiefly homeward.

These conditions were new for there had been no naval war of importance since the country became dependent on importation for its essential commodities, while in the land wars which had occurred, e.g., the South African war, it had been possible for the Admiralty to meet the demands of the Army without interfering with the shipments of the commodities required for the life of the country.

What had happened, as I have stated earlier, was a change in the character of war dating from the Napoleonic era. The Mercantile Marine had become a vital factor in national existence and under the conditions prevailing during the late war we had to bring it under Government control. While shipping was necessary for fighting operations it was also necessary to ensure the maintenance of material supplies for the Services and to secure the means of life of the whole population. In these circumstances, what was logical enough when a comparatively small portion only of our Mercantile Marine was necessary for fighting purposes had very serious drawbacks when almost the whole of it had to be brought into national war service.

There were two great difficulties in the way of the Admiralty retaining control of sea transport as that service developed during the war. The first and the greatest was that already dealt with—that it threw upon the Admiralty the impossible burden of controlling the sea transport required for all industrial and civil needs. The second difficulty was that, when the demands on shipping began to exceed the available supply, Departments were reluctant to accept the decision of the Admiralty as to the supply of tonnage for its needs. A Department would accept a decision from some body responsible for the general control of the Mercantile Marine of the country, but would not readily accept the decision of another Department which was itself a large user and the main competitor for shipping.

This led the Cabinet to form the Ministry of Shipping at the end of 1916 and to transfer to the Shipping Controller the responsibility for the use of all mercantile tonnage. Later, the principle that the Department which in time of peace is responsible for certain services shall be that which in time of war will have to be responsible for them, led to the Transport Department being placed with the Board of Trade.

To secure the proper fulfilment of the Admiralty's own requirements for tonnage the Director of Sea Transport is given a dual responsibility.

The present arrangement for providing shipping for the fighting Services, both in peace and in war, is that the Board of Trade is the

responsible Department, the officer charged with these duties being known as the Director of Sea Transport. This officer is also responsible to the Board of Admiralty in certain specific matters relative to the supply of shipping for the Navy. These are :—

- (1) In peace time the Director of Sea Transport acts under the authority of, and is responsible to, the Board of Admiralty, not to the Board of Trade, in regard to any naval mobilization arrangements and naval war arrangements that it is necessary to make in time of peace.
- (2) In time of war the Director of Sea Transport, as in the late war, will act under the authority of, and be responsible to, the Board of Admiralty in respect of sea transport work done on behalf of the Navy.

Similarly, the responsibility for running the shipping provided rests upon the Board of Trade with the following main exceptions :—

- (a) That commissioned fleet auxiliaries are run by the Admiralty.
- (b) That in fighting zones the ships are run under the orders of the Navy.

The effect of this arrangement is that both in peace and in war the fighting Services make their demands for the mercantile tonnage or the sea transportation they require upon the Board of Trade, which is responsible for meeting those demands as efficiently as possible. The Board of Trade does not, of course, actually prepare the ships ; that is the business of the shipowners and ship repairers. The Board is essentially concerned with obtaining suitable ships and seeing that they are properly equipped for the service for which they are required.

We have had some years' experience of this system and I think it is generally agreed that it has worked well. Obviously where several interests are involved, any arrangement will only function satisfactorily when all the Departments concerned play the game in the spirit as well as in the letter. I can safely say that no one could wish for better relations than exist at present between the Board of Trade and the fighting Services in matters of sea transportation. There is, in fact, a much closer touch between the Transport Department and the Services than was the case before the war. That, probably, is the result of the war rather than of changes in organization, but it can at least be said that the changes in organization have not prevented that result.

There is another service which the Board of Trade renders to the Admiralty and to the whole country in the matter of mercantile shipping which deserves special mention. It will be remembered that on the outbreak of the last war there was considerable hesitancy among many

shipowners about sending their ships to sea in view of the risk of capture, loss or damage by measures of war. The Board of Trade was responsible for arranging the War Risk Insurance of ships and cargoes which was the condition precedent of the active working of our Mercantile Marine.

In connection with this, the Board of Trade rendered in the last war, and will have to give again in similar circumstances, valuable help to the Admiralty in securing that mercantile shipping should obey Admiralty orders as to route and sailings whereon the successful working of the War Risk scheme depended. Without the closest possible co-operation between the Admiralty and the Board of Trade on the one hand, and the Board of Trade and the shipowner on the other, such schemes cannot be effectively worked, and their successful operation is vital to this country in war time.

That is all that I can say on this subject in the time at my disposal, but I hope I have at least made it clear that the Board of Trade is a necessary ally and agent of the fighting Services in some of their most important operations.

DISCUSSION.

THE SEA TRANSPORT DEPARTMENT.

CAPTAIN R. G. H. HENDERSON, R.N.: I only desire to refer to one particular department of the Board of Trade—the Sea Transport Department. I venture to suggest that the right position for the control of the actual sea transport of the fighting Services is still at the Admiralty. I feel convinced myself that the transport of the Expeditionary Force, which everybody admits was so very well accomplished, would not have been so well done had the two Departments concerned been under two separate controls. I quite willingly admit, as the lecturer says, that the Sea Transport Department gradually began to control the British Mercantile Marine, and that at that stage it was necessary to form a Shipping Board; but I should like to ask the lecturer how many members of the Board of Trade joined the Ministry of Shipping, and whether those various functions of looking after oil, and various other things, were not the growth of the war, and did not exist at the time when the Ministry of Shipping was actually formed?

I, personally, consider that the work of a Ministry of Shipping must be performed by men who have made their daily bread in shipping and not by men belonging to a Government Department, who cannot know the business so intimately. I agree with the lecturer that, at the moment, the co-operation between all concerned is splendid. As the Chairman said, the lecturer was at the Admiralty for a good many years; he knows his way round that Department and he knows a large number of naval officers, and probably Army officers as well; but our lecturer cannot live for ever, and his successor may not know the Admiralty or the Services so intimately. I think that the general co-operation of the very big business of sea transport will not be so good at the beginning of a future war, when co-operation will be most important, as it would be if the Sea Transport Department was at the Admiralty.

SIR NORMAN LESLIE : I agree with Captain Henderson, that in the event of a great war we must have a Ministry of Shipping and that the ships must be run by the people whose business it is normally to run them, with the assistance of Civil Servants and under the protection of the naval officer ; but I rather join issue with him when he says that the Sea Transport Department should be under the roof of the Admiralty. My conviction is that if that department is under the roof of the Admiralty, the Ministry of Shipping will take longer to be created, whereas if it is under the roof of the Board of Trade, the Board of Trade officials would rush to the shipowners at once and say : " Come and form this Ministry of Shipping as quickly as you possibly can."

PAYMASTER-CAPTAIN MANISTY, R.N. : As regards the point of divergence between Captain Henderson and Sir Norman Leslie, I think with the latter, that it would be better that, at the beginning of a war, sea transport should be associated with the Board of Trade.

TRAINING OF THE MERCHANT NAVY.

CAPTAIN SELWYN DAY, R.N.R. : It seems to me only logical that we should look upon the Merchant Navy—a very good title, which was bestowed upon it by His Majesty—as a potential fighting force. We know that in sight of the windows of this very Institution the Red Ensign flies on the Cenotaph : surely a reminder of its military co-operation in the last war. That being so, I should like to ask the lecturer, who mentioned the responsibility of the Board of Trade for the certification and training of Masters and Mates, what that Department is doing in order to fit those officers for the command and defence of their ships in war time. Bearing in mind that 2,197 merchant ships were lost in action in the late war, it is very necessary that these men should know how to use the weapons which, I presume, would be put on board for the defence of their ships in a future war. To-day, we have a much smaller Navy and smaller Royal Naval Reserve than we had before the war ; but we have a larger Mercantile Marine, and it will be called on to combat instruments of destruction more deadly than any in past experience. What provision, I therefore ask, is being made to train officers to meet these dangers ?

WAR RISK INSURANCE.

ADMIRAL SIR RICHARD WEBB : The only point on which I wish to remark is contained in practically the last sentence of the lecture, which I do think needs underlining very strongly. It is a matter of common history now that the insurance scheme for merchant ships was only passed into law on the 3rd August, 1914. Had it not been passed into law at the last moment before war broke out, each of those ships, by the terms of her war risk insurance policy, would have had to be put into the nearest neutral or allied port, and there she would have stopped—and so would our trade, so would our supplies, so would our commerce, and so would everything of ours which was borne on the sea ; but fortunately that insurance scheme was passed.

On looking up the report of the Liverpool Ship Owners' Association, however, I saw there a remark to the effect that no war risk insurance scheme is at present in existence. It is, therefore, with feelings of very great relief that I hear to-day from the lecturer that such a scheme will come into force. Nothing could be more important from the point of view of keeping trade going at the beginning of a war than such a scheme. It was able to function at the beginning of the last war because that war, so to speak, developed slowly. The next war will develop

much more suddenly; and if our arrangements for war risk insurance are not absolutely ready to be put into practice at the very first moment it will be a very bad day for England.

THE LECTURER.

I think Captain Henderson and Sir Norman Leslie very well typify the discussion which went on before the formation of the Ministry of Shipping and after the war, when the Government was considering whether the Transport Department should revert to its immemorial home the Admiralty, or go to some other place, and if so, where.

With regard to the functions of the Board of Trade relative to coal and oil, oil came under the survey of a Central Committee somewhere about 1917—if my memory is right. The Ministry of Shipping itself was formed in 1917, and coal came under control also in, I think, 1917. Both the coal and the oil controls were dictated by war conditions, and somebody had to take responsibility for them. The Petroleum Executive was, I think, given an independent status with a Cabinet Minister, Lord Long, at its head, and coal was handed over to the Board of Trade under a Coal Controller.

I should be extremely sorry if anything I said led anyone to think that I was of the opinion that a Government Department could control shipping in the sense of running shipping or being responsible for the effective working of the Mercantile Marine. Quite clearly, all a Government Department can do *vis à vis* a great and efficient industry is to tell that industry what it wants it to do. Then the industry has to get on and do it, using its own methods and its own organization—which, in the case of the shipping industry, it did with extreme efficiency. The Government can say what it wants, and it can put into the hands of the industry a Government sanction. You will always get industries in which there are people who do not particularly care to do what the Government wants them to do, and if an industry organizing itself for war has not Government sanctions behind it, it may have difficulty in bringing its more obstinate members into common action. In that respect Government sanctions may be of great assistance. But industries must run themselves, and, as in this case of shipping, are well organized to do it.

Captain Henderson put his finger on the crucial point when he asked what is the right home of the Transport Department, and how are we going to ensure that the fighting Services get what they want, *when they want it*, unless they are in the position, or at all events unless the Admiralty is in the position, of actually controlling the man who has got to get the tonnage for them. There is no conclusive answer to that question. The answer must lie in experience. In the past the Admiralty controlling the Transport Department did carry out the sea transport work of the fighting Services effectively and efficiently. In another big war, whether the Board of Trade controlling sea transport will carry out the work as efficiently or effectively, nobody can tell. We shall have to wait and find out. One thing is certain, as Captain Henderson said: Unless the relations between the Navy and the Army and the Air Force and whoever is responsible for supplying tonnage, are similar to the relations which would exist if the tonnage supply people were in those fighting Departments, the thing must function badly—or at all events less well. Whatever happens, in whatever Department the sea transport branch of the Services is, it must be regarded as part of the fighting Services. Any other point of view is hopeless if the job is to be well done.

Captain Day gave me rather a heavy broadside. I myself regard the Merchant Navy as a fighting Service, in the sense that it is peculiarly open to attack. He

asked what we are doing to train the personnel for the work which it will have to do in war-time? As far as I know, very little; but it is not my subject. I am not sure how you can train the Merchant Navy for the work which will fall upon it in war-time, except by encouraging it to carry out from day to day those operations which are its ordinary functions, both in peace and war. If merchant ships are to be turned into fighting ships, the Admiralty must answer the question.

THE CHAIRMAN.

There are a great number of administrative experts—people who delight in that type of genealogical tree that shows the distribution of business—who would find something to criticise in a system which gives to one high official in one department a sort of standing in another, and whereby he is at one moment the servant of one and at another moment the servant of another. But when all things are considered, the proof of any organization is to be seen in its working, and from my view, such as I have had, of the relations between the Board of Trade and the Admiralty, I can say that, as has often been proved in the past, where there is no sort of inter-departmental jealousy but an overriding determination to be mutually helpful, you very often get no disadvantage but an actual advantage from some such fusion as you see typified in the person of the Director of Sea Transport. Of course, it all depends on the nature of the personal link. Captain Henderson has drawn attention to the impermanent nature of personal links, but as a late Fourth Sea Lord I have had contacts with two such personal links, and I hope you will not think it out of place if here and now I pay my tribute to the present Director of Sea Transport and to his predecessor for their ready assistance at all times.

I was interested to learn that the Board of Trade was responsible, under Lord Halifax, for the founding of the colony of Nova Scotia where there was founded a race of men whose descendants still sail the seas. Perhaps they are not quite so conspicuous now as in the old sailing days when they were then known as the hardiest of seamen by the picturesque name of "The Blue Noses."

The Lecturer mentioned the Board of Trade's responsibilities regarding the protection of Crown and public rights of foreshores. I wonder how many people here have noticed the little square tablets or posts up our creeks and rivers with the Admiralty anchor on them. It calls to mind the old saying that "Admiralty jurisdiction goes where'er the tide flows."

Captain Selwyn Day touched a note which perhaps was not strictly germane to the subject of the lecture, but I am grateful to him, as the lecturer was, for having introduced it. The same line of thought has been running perhaps through many of our minds: I have often wondered whether there was not some chance, in view of the fighting past and possibly future of the Mercantile Marine, and in view of the fact that we are dependent on the Mercantile Marine for our very means of life, of the Board of Trade or some other Government Department, or the shipping companies themselves, making service in the Mercantile Marine of a more continuous and regular character—if not for all the personnel for a portion of it, giving a career of an assured nature to the most deserving and valuable, and possibly a sheltered future at the end of their careers. Perhaps in the fullness of time the Board of Trade, which has proved that nothing is either too big or too small for it, may help to bring about something of that sort.

The usual votes of thanks to the Lecturer and Chairman were carried by acclamation.

THE PROVOST SERVICES FROM 1809 TO THE PRESENT DAY¹

By CAPTAIN H. BULLOCK, F.R.Hist.S., I.A.

DURING the Napoleonic wars the need for an organized body of police within the British Army became urgent. Previously no separate corps of police had formed part of our fighting forces, if one excepts the "provost company" of 1513, of which little survives except its name.

When Wellington arrived in Portugal, the police duties in the army there were carried out by two means:—

- (a) Provost officers, aided by their (non-commissioned) assistant provost marshals.²
- (b) A corps of horsemen called the "Corps of Guides," often referred to as the "Corps of Mounted Guides."

The latter corps was formed by Wellington in April, 1809, and placed under the command of an officer of the Quartermaster-General's Department, which corresponded with what is now known as the General Staff.³ The duties of the corps were to reconnoitre routes, to act as interpreters, and to carry messages and orders. Its composition was unusual, for it included in its ranks many enemy deserters; police duties were but a minor part of its work.

Within the last century and a half, one essential change has taken place in the scope of a provost marshal's duties: namely, the power to order and inflict *of his own authority* punishments on offenders caught red-handed has lapsed. It is to some extent obscure whether the law ever gave express sanction to these summary powers; probably it did not: and such powers therefore derived their sole authority from

¹ The origin of the Corps of Military Police has already been treated by the author in the "Journal of the Society of Army Historical Research." This has been incorporated in the present article by kind permission of the Editor of that publication.

² Assistant provosts are first mentioned in 1809 ("Despatches," IV, 435).

³ Wellington to Bathurst, 24th February, 1813.

the Royal prerogative, fortified by the immemorial custom of the service. The law, since 1879, expressly forbids any such practice.¹

The extent of this change is revealed in a General Order issued from the headquarters of the army at Freneda on 1st November, 1811, where there is also given a good account of the powers and duties of provosts at that time.² In our army in the Peninsula "the provost's establishment . . . was larger than was ever known with any British army"³—yet one more example of Wellington's thoroughness. That their duties were sufficiently onerous, up to 1812 or 1813 at least, will be understood by those who have read of the frequent outbreaks of indiscipline which characterized the campaign.

Many years afterwards, the charge was levelled at Wellington, possibly from political motives, that he had "flogged women" in the Peninsula. He evidently resented the accusation bitterly; and though he did not publicly refute the charge, he went to some trouble to explain the matter to one of his correspondents. The point only arose in 1850, though the original substance of it had been published in *Paris Revisited in 1815 by way of Brussels*, by a journalist named John Scott, a third edition of which appeared in 1816. Scott there describes how he met at Péronne on his way to Paris two Highland soldiers with whom he says he had the following conversation:—

"I inquired if the Duke of Wellington took severe means of enforcing on his Army that regard for the lives and property of the inhabitants of the seat of war, in maintaining which he has evidently placed the pride of his ambition, not less than in beating his armed adversaries.

'Na, sir, no here,' was the reply, 'for the men ken him gailies⁴ now. But in Spain we aften had ugly jobs. He hung fifteen men in ae day there, after he had been ordering about it God knows how lang. And damn me if he didna ance gar⁵ the Provost Marshall flog mare than a dizen of the wimen: for the wimen thought themselves safe, and so they were war' then the men. They got sax and therty lashes apiece . . . and it was lang afore it was forgotten on 'em. . . .'"

No more is heard for thirty-five years, when the charges were evidently first brought to the Duke's notice by Mary Marchioness of Salisbury.⁶

¹ Army Act, section 74.

² See also page 299 *inf.*

³ "Wellington's Despatches," 2nd edition, VI, 18 (6th April, 1810).

⁴ Fairly well.

⁵ Compel, make.

⁶ "A Great Man's Friendship," ed. Lady Burghclere, 1927.

The Duke replied on 21st September, 1850, under the impression that it was Sir Walter Scott who had made the original allegations. Lady Salisbury shortly corrected his misapprehension, when Wellington declared that he had never heard of John Scott. The Duke's letter throws a more vivid light on the work of the provosts in the Peninsula than do any of his despatches. He says :—

"... the fact is there is in every army in the field, particularly a British army, an officer called the provost marshal. I had one with seven assistant provost marshals. The duty of these officers is to ride about with a detachment of troops to prevent marauding and plundering by the soldiers, and to inflict punishment on those whom he should find in the act of plundering. In truth, I believe these officers punished but seldom. The plunderers generally ran away as soon as they saw or heard the officer, who was titled the Bloody Provost. As I have stated, it was the duty of the provost marshal and his assistants to punish those whom they should find in the act of plundering or marauding ; but no officer in the army was permitted to order one of these to punish anybody. Of that I am quite certain, and I do not think I ever ventured myself to order that which I prevented others from ordering. Indeed, I recollect upon one occasion finding fault with one who had ordered a provost to punish a man. I stated that I could not give such an order myself,—that the provost could punish no man unless he found him in the act of plundering.

Portugal, in which two or three campaigns were fought, is a country producing everywhere wine. The wine is collected either in jars or in casks, amongst the most opulent of the wine proprietors, in cellars contiguous to the houses in nearly every village. The soldiers were in the habit of breaking into these cellars. They bored holes in the casks and set the wine running ; of which each partook and filled his canteen, which every man carried. These were accompanied by their women as usual, with their children in their arms. They were disturbed possibly by a fresh party and moved off, invariably leaving the cask running, so that at last the cellar itself became full of wine up to their middles, or even to their chests. This went on, party of plunderers succeeding party of plunderers, till the ' Bloody Provost ' hearing of what was going on, in coming there upon his rounds interrupted their sports. Being there up to the middle in wine, and generally all drunk, they could not get away ; and it was probably necessary that the provost should exercise his authority and punish some in order to clear the cellar. . . ."

It should be borne in mind that, when the following order was issued, in 1810, assistant provost marshals were non-commissioned officers.¹ Nowadays, by the custom of the service, only commissioned officers hold the appointment.²

"The Commander of the Forces is concerned to observe that the power of the assistants of the Provost Marshal of the Army has, in more than one instance, been abused; and that officers have thought themselves authorised to send orders to the Assistant Provosts, under which orders abuses have been committed, contrary to the established usages and rules of the service, and the intentions and orders of the Commander of the Forces.

2. The office of Provost Marshal has existed in all British armies in the field. His particular duties are to take charge of the prisoners confined for offences of a general description; to preserve good order and discipline; to prevent breaches of both by the soldiers and followers of the army, by his presence at those places in which either are likely to be committed; and, if necessary, he has, by constant usage in all armies, the power to punish those whom he may find in the act of committing breaches of order and discipline.

3. The authority of the Provost Marshal to punish must be limited by the necessity of the case; and whatever may be the crime of which a soldier may be guilty, the provost marshal has not the power of inflicting summary punishment unless he should see him in the act of committing it. If he should not see the soldier in the act of committing the offence of which he may have been found guilty, a report must be made to the Commander-in-Chief of the army, who would give such orders as might be deemed expedient, either for further inquiry, for the trial of the soldier, or for the infliction of summary punishment, according to the nature of the case, the degree of evidence of the soldier's guilt, and the existing necessity for an immediate example.

4. The duties and authorities of the assistants of the Provost Marshal attached to the several divisions and stations of the army are the same as those of the Provost; but the conduct of those officers and the exertion of their authority require the constant and watchful attention of the General Officers commanding divisions, and of the Staff officers attached to them, as that of the Provost Marshal does of the Commander of the Forces and of the officers of the General Staff.

5. They should attend particularly to the nature of the offences against good order and military discipline, of which the soldiers and followers of the army may be guilty at different times and under different circumstances, and to allow the Assistant Provosts to punish them in a summary manner, only when committed under those circumstances when summary punishment may be necessary for the sake of example, and in which the prevalent and continual commission of the particular crime may be injurious to the public service.

¹ "Despatches," VII, 75 (27th December, 1810).

² In the earliest corps order books of the Military Police Corps there are various notifications of sergeant-majors of the corps being appointed to act as assistant provost marshals at Aldershot, the Curragh, and elsewhere; so the custom seems to have survived to the eighteen-eighties at least.

6. The Commander of the Forces desires that it may be clearly understood that no officer whatever has a right to order the Provost Marshal or his assistants to exercise the authority entrusted to them; nor can the Provost Marshal or his assistants inflict corporal punishment on any man, excepting they should see him in the act of committing a breach of orders and discipline. Their duty is, by vigilance and activity, to prevent those breaches which the Commander of the Forces is sorry to observe are too common, and to punish those they catch in the act."¹

The Corps of Mounted Guides seems to have served with much credit; but although its strength was increased in order to provide more assistance for the provost marshal, further measures were necessary. Wellington, spurred by flagrant instances of indiscipline in his army, applied for the formation of an additional corps, two troops strong, the personnel of which should be found partly from picked men of the cavalry of the line and partly from troops in England.²

The proposal was approved,³ and in the spring of 1813 the Staff Corps of Cavalry was raised and constituted,⁴ being placed under the command of Brevet Lieutenant-Colonel George Scovell, 57th Regiment,⁵ who had previously commanded the Corps of Guides. The establishment was laid down as *four* troops (totalling 11 officers and 180 other ranks); its principal functions being (a) mounted reconnaissance, and the provision of despatch-riders and mounted orderlies, i.e., to procure and transmit intelligence; and (b) to act as military police, in addition to the provost marshal's men. At the same time, the Corps of Guides was retained at the increased establishment of 14 (Portuguese) officers and 193 other ranks, for they, "unlike the British, could be trusted out of sight of their officers, and would in any case be wanted to keep order on the line of reconnaissance."⁶

It will be seen that the officers of the Staff Corps of Cavalry were what would now be termed "intelligence officers." There is no evidence that they devoted particular attention to police duties as such, although it was undoubtedly the original intention that they should do so, and perform in the British Army the duties carried out in the French service by the *maréchaussée* or mounted police. It seems probable that police duties were left to the provost officers to supervise, whether their actual execution was entrusted to men of the Staff Corps of Cavalry or to the

¹ "Supplementary Despatches," VII, 234-6.

² Duke of York to Bathurst, 13th January, 1813; Bathurst to Wellington, 27th January, 1813. ("Supplementary Despatches," VII, 539).

³ *Ibid.*, VII, 486, 539.

⁴ General Orders, 13th March, 1813, and 21st April, 1813; Wellington to Torrens, 24th March, 1813. ("Despatches," VI, 380).

⁵ "D.N.B."

⁶ Fortescue's "History of the British Army," IX, 98-9.

assistant provost marshals aided by regimental police. It is unfortunate that the diary for 1812-3 (published in 1827 as "by an officer late of the Staff Corps Regiment of Cavalry") throws no light upon the subject, since during the period covered by the diary the writer appears to have been a commissary.

The Corps would seem to have been disbanded at the end of the Peninsular campaign. On the resumption of hostilities in 1815, Lieutenant-Colonel Scovell was, on Wellington's suggestion, at once ordered to raise and take out to the Low Countries two troops of the Staff Corps of Cavalry. He did this, and was in addition Superintendent of the Communications of the Army, being present at Waterloo. The strength of the Corps appears to have been raised from two to four troops in 1817; but in 1818 it re-embarked for England when France was evacuated by the army of occupation. It is stated in the papers of Sir George Scovell to have been the last corps of the British Army to leave French soil, and was probably utilized to much advantage as a police force and means of communication in occupied territory.¹ Its disbandment apparently took place after its return to England, for the Corps disappears from the Army List after 1818; it figures in the weekly state of the army at Cambrai as late as 20th September, 1818.²

For nearly sixty years there existed in our army no separate organized body of military police, any assistance of such a nature needed by the local commander being provided by patrols and parties from units on the spot, which carried out the necessary work of garrison and regimental police.³ It was during this period, however, that the definite status of a provost marshal, *qua* such, was once again recognised; the Queen's Regulations for 1844 lay down that "the officer appointed to act as provost marshal of the Army is to rank as captain in the army," and emphasise that "the appointment is one of great responsibility and requires the utmost vigilance and activity."

It was not until 1st April, 1877, that the Corps of Military Mounted Police was raised, to be followed on 1st August, 1882, by the Corps of Military Foot Police.⁴ It is true that previous to this there was a small permanent staff for the military prisons, for which separate financial provision was made in the estimates. But it consisted almost entirely of military pensioners, and was not a combatant corps. The innovation was followed by a letter from the War Office to the commander of the

¹ The convention for the evacuation of French territory by the Allies was signed at Aix-la-Chapelle on 9th October, 1818.

² Public Record Office, "W.O." 1/213.

³ See, for instance, "General Regulations for the Army," 1822.

⁴ Army Circular No. 163 of 1882.

cavalry brigade at Aldershot,¹ laying down the strength of the new mounted corps as :—

- 1 sergeant-major ;
- 7 sergeants ;
- 13 corporals ;
- 54 privates ;

and ordering that it should be composed of men and horses selected from cavalry regiments in the United Kingdom, of whom a number were to come from the troops at Aldershot. All records of the men selected were transferred to the care of the provost marshal at Aldershot.

The original strength of the Military Foot Police, when formed in 1882, was :—

- 1 sergeant-major ;
- 13 sergeants ;
- 17 corporals ;
- 57 privates.

Some photographic groups of the corps in its fairly early days are on record.² The employment of garrison military police (drawn from units of the garrison) was thereupon much diminished, and was finally abandoned (except for the London District) in 1916.³

In August, 1914, immediately prior to the outbreak of the Great War, the strength of the military police was :—

- 1 provost marshal commandant, at Aldershot ;
- 1 assistant provost marshal, at the Curragh ;
- 1 assistant provost marshal, at Tidworth ;
- 173 military mounted police ; and
- 335 military foot police ;

totalling 3 officers and 508 other ranks ; whilst the maximum strength attained during the war was about 14,700 of all ranks.

In 1916 the two corps were merged, under the title of the Corps of Military Police⁴ ; and a provost marshal of the Home Forces was appointed.⁵ The commandant, who was also officer in charge of records of the corps, and provost marshal at Aldershot, then relinquished the last mentioned of his three appointments.⁶ His present official style is Provost Marshal Commandant of the Corps of Military Police.⁷

¹ W.O. letter of 12th May, 1877, from A.A.G. (for A.G.).

² "Navy and Army Illustrated," 23rd July, 1897.

³ Army Council Instruction 1733 of 1916.

⁴ Army Order 49 of 1916.

⁵ W.O. letter No. 33/Headquarters/2332—A.G.3, dated 27th September, 1916.

⁶ *Ibid.*

⁷ "King's Regulations" (1923), para. 665.

The law, as it stands to-day, respecting the appointment and powers of provosts, and also their duties as laid down in the official regulations, may be summarized as follows.

Appointment.—Abroad, provost marshals and their assistants may be appointed "when occasion requires"¹ by general officers and brigadiers "for the prompt repression of all offences"—not, be it noted, solely on active service, but *abroad*, whether in war or peace. They may arrest and detain "persons subject to military law committing offences," but may not inflict any punishment *of their own authority*: that is important to note.²

The Commander-in-Chief in India is given the power of appointing a provost marshal "to use and exercise that office," by warrant under the Sign-Manual. This power he may delegate to any officer authorized to convene a general court martial. Similar powers may be given, also under the Sign-Manual, to general officers commanding abroad.³ It is understood that assistant provost marshals cannot properly be appointed unless a provost marshal be first appointed. At Home, a provost marshal and assistants can only be appointed by the Sovereign under the Royal Prerogative.⁴

Duties.—In war, the provost marshal and his service, receiving their instructions through the Adjutant-General's branch of the staff, have as their principal duties:—

1. To ensure the observance of police regulations, and to assist generally in the maintenance of discipline.
2. To arrange the arrest of unauthorised persons within the lines, plunderers, and all offenders generally.
3. To assist in the collection and disposal of stragglers and prisoners of war.
4. To control the civil population and the movements of civilians in the theatre of war, with the aid of the "Field Security Police" who are controlled by the Intelligence Branch of the General Staff.
5. To protect the civil population from plunder and ill-treatment by soldiers, and to afford them opportunity to prefer complaints if ill-treated.
6. To carry out the executive duties in connection with the control of traffic.⁵

¹ Army Act, section 74.

² "Manual of Military Law," 1914, p. 723.

³ *Ibid.*, p. 724.

⁴ "Manual of Air Force Law," p. 225.

⁵ "Field Service Regulations," I, para. 51.

In the execution of these duties the military police are entitled to every assistance from all persons belonging to, or employed with, the forces in the field.¹

The provost marshal is the *ex-officio* commandant of the military police, and is responsible for their organization, efficiency, and general distribution. He also organizes and controls military prisons and detention barracks in the field.

Powers.—A few examples of special powers with which provost officers are endowed in various directions deserve notice. A provost marshal, or his assistant, has in respect of any soldier in his custody who is undergoing field punishment, the powers of the governor of a military prison²: such powers are defined in the King's Regulations³ and in the *Rules for Military Detention Barracks and Military Prisons*.⁴

India.—Under the Indian Army Act, the disciplinary code by which the native Indian Army is governed, provost marshals may be appointed by the Commander-in-Chief in India, or by the officer commanding any formation down to an independent brigade, or by the officer commanding the forces in the field, "for the prompt and instant repression of irregularities and offences committed in the field or on the march"; and it is laid down that their powers and duties "shall be regulated according to the established custom of war and the rule of the service."⁵

¹ *Ibid.*, para. 51(5).

² Army Act, section 74.

³ See paras. 709-23.

⁴ Being regulations made under section 133 of the Army Act.

⁵ Indian Army Act, section 23.

MORALE AND LEADERSHIP

By FLIGHT LIEUTENANT E. J. KINGSTON-McCLOUGHRY,
D.S.O., D.F.C., R.A.F.

MORALE, that instinct which inspires achievement as against self-preservation, is the most important factor contributing to success in war, for it increases the efficiency of a force out of all proportion to its physical strength. Morale exists in two forms, individual morale and collective morale; in either case it is a product of enthusiasm and confidence. Endowed with high morale an individual or a force is prepared to make sacrifices for ideals, and each man has confidence in himself, his comrades, his force, and his commander.

Enthusiasm, we find, springs from a sense of duty, loyalty, patriotism, *esprit de corps* and self-interest. Confidence grows from other qualities such as the possession of knowledge, strength, skill and full faith in superiors or in the force under one's command.

Individual morale is dependent upon all the foregoing factors, and the cultivation of these is of paramount importance to a strengthening of morale. Thus the more these qualities are developed the higher will morale be raised. It should be remembered, however, that any of the above factors may be sapped by fear. The individual, therefore, with a high degree of morale will possess a reserve which can better withstand that instinct of self-preservation, which so constantly endeavours to assert itself, than an individual whose morale is not fully developed.

Collective morale is very different from the morale of an individual. It is frequently born of an unbalanced instinct. Moreover, it is irrational in that at times it produces a feeling of being invincible in consequence of numerical strength alone. Because of its inherent inability to reason, collective morale is overpersuaded by suggestion.

How can the faculties of morale be developed and maintained?

Enthusiasm is not a permanent phenomenon; indeed, it is unstable, and is liable to wane from many causes, such as discomfort, monotony, injustice, inaction and fatigue. The best form of enthusiasm is based upon high ideals, which must be inculcated and continually refreshed in the minds of all

Confidence needs creating, but when it has once been created it is important that the elements upon which it is based do not decay. In the individual, confidence can be developed and maintained by education, training and health. In a force, confidence is the result of organization and equipment. Confidence in one another can be developed and maintained by discipline and *esprit de corps*; confidence in a commander is the product of good leadership.

These foundations of enthusiasm and of confidence which are essential to the development of high morale are produced and maintained by efficiency, good environment and inspiring leadership, and, generally speaking, the greatest of these is leadership. The history of Alexander, Hannibal, Cæsar, Gustavus Adolphus, Frederick, Napoleon and others tells that when these leaders fell, the forces they left behind became demoralised.

Leadership is that quality in a commander which influences and inspires his officers and men; it controls his forces as the brain controls the human body. It must be realised, however, that it is not sufficient for the commander-in-chief alone to possess the qualities of leadership, commanders of all grades must develop the quality to the highest possible degree. How can this be done? We have to guide us books and essays, the biographies of the great leaders, and our own recollections of leaders under whom we ourselves have served. Personal experiences, however, are too limited to enable an accurate impression to be formed of the relative value of morale and physical force. History, on the other hand, illustrates again and again how the great leaders of the past took moral force into account in their plans and what high value they placed in it compared with physical force. Whilst our own impressions are the more vivid, history provides us with many striking examples of leadership.

Leadership is required both in times of peace and of war. Possibly it is in some ways easier to achieve in war, as not only does the common danger develop mutual loyalty, but a good commander has little difficulty in inspiring his men by his achievements and victories. Indeed, we find many examples of this in history, such as Nelson and Wolfe. These great commanders and many others have even been worshipped, but this worship has only arisen from the fact that the forces were engaged in warfare. On the other hand, in times of peace a commander to a great extent can be identified only by his personality and character. But it by no means follows that a commander who is successful in times of peace will also succeed in war. There are many qualities, such as physical and moral courage, endurance and a ready acceptance of responsibility which can be tested only in the actual trials of war. It is not too much to say that in peace time there is a danger that intellect,

to the detriment of courage and an acceptance of responsibility, is allowed to count for too much. One is tempted to remark that the high standard of education renders leadership to-day more exacting than in the past. Although commanders have always been subjected to criticism, now-a-days the minds of subordinate officers and men are far more analytical than of old. It is obvious, therefore, that whatever the conditions which have prevailed, to-day commanders must be chosen for their ability.

Battles can be won only by movement, and the best results are obtained only when the conception of a movement takes place in the commander's mind. Movements conceived otherwise may not form part of his plan, and are then a waste of effort. Let us examine the way in which a commander's thoughts are formed and how they are conveyed from his mind to his force. His thoughts begin with reason, that is, his memories focussed to the existing conditions. Since, however, war is not an exact science, reason is not sufficient. The unknown must be dealt with, and to do so the commander's imagination is called into play as well as his knowledge acquired from experience or even from history. The medium which transmits the commander's mind to his force is his will, and this is no more than the conscious fixing of his thoughts in one direction and the projection of his personality.

QUALITIES OF LEADERSHIP.

The first quality necessary in a leader, therefore, is *reason*: a reason which is prompted by high ideals and directed by knowledge, efficiency, energy, judgment and self confidence. The second quality is *imagination*. Not only must a leader be able to picture the circumstances of the enemy, but he must also feel the pulse of his own force and be able to place himself in the midst of the conditions which are being experienced by his men; he must be able to realise what fear and discomfort mean to his men, as long as he is not obsessed by them. Lastly, a leader requires a strong and determined *will*, with energy to carry through a resolution.

The foregoing qualities are essential, but at the same time a leader must have many other attributes. For example, qualities are needed to enable his will to be sympathetically received by his force, for no matter how correct a decision may be and how strong his will, if a force does not believe in the honesty, justness and courage of the commander, if he is not calm and has not an even temper, if he lacks tact, a knowledge of human nature and a sense of humour, then the best results can never be obtained. A leader must also possess the ability to judge character, for the days when one had physical control of an operation are gone. Responsibility must now be delegated more than ever, and the execution of the plan left to subordinates.

To be a genius a leader must have the power of creation. He must be above imitation. He must appreciate causes, their effects and their varying combinations when united. Thus can a genius produce original combinations from the elements of war, and with a plan of simplicity, surprise the enemy. This faculty, however, is a natural gift and can never be learnt. Such, then, are the qualities of a leader. No man can possess the complete equipment, but what he must have to replace his deficiencies is a knowledge of his own weaknesses and limitations.

A COMPARISON OF TWO GREAT LEADERS.

A study of the biographies of successful leaders of the past shows that the qualities which have been enumerated above were common to nearly all of them and that the more highly developed these qualities the more successful was the leadership. Let us take Wellington and Wolfe and see to what extent they possessed these qualities.

Ability.—Wellington was a leader of great knowledge, ability and common sense. Early in his career he gained a minute knowledge of the whole conditions which governed a soldier's activities. Later he made a serious study of science, history and the tactics of war. He had also the ability to write: his papers and despatches were comprehensive simple, clear and profoundly sagacious. Wellington was fortunate in his early years in acquiring experience of statesmanship under his brother in India, though he never had the breadth of mind of a great statesman. He suffered from the inability to work well with another Service, or, indeed, as a subordinate.

Wolfe also possessed great knowledge, ability and common sense. He had great mental capacity and was widely read. He had one thought, and that was to improve his knowledge of soldiering. Moreover, he understood naval matters and had a knowledge of the world. Wolfe did not suffer from Wellington's inability to work with others, and it may be claimed that he worked well both with the Navy and with other commanders.

Enthusiasm.—Wellington had a great sense of public duty, and he looked upon everyone as a tool of the country. He had great strength of will, in fact he was imperturbable; he also possessed great physical and mental energy, and was very ambitious. He threw his heart and soul into his career. To Wolfe the honour and welfare of his country were the mainsprings of his life; and to these he devoted his whole soul and thought. Moreover, his patriotism was so great that he had no time for such matters of professional prejudices and jealousies.

Tact and Human Knowledge.—Tact was not one of Wellington's strong points. His severe criticisms were resented, he was cold and

punctilious and never secured the affections of his officers and men. He subjugated his army, and inspired few disciples except the members of his staff. He managed, however, to overcome these defects by his manliness and by securing for his army brilliant victories. He also gained the confidence of the inhabitants of the areas through which his armies passed by his unsparing repression of marauding, by the excellent degree of discipline to which he had brought his troops and by the fact that he always paid for his supplies.

Wolfe, on the other hand, had great tact and good sense. He was universally loved and admired. He was of noble character, modest, unselfish and mixed freely with his men. Although of a frank disposition and of a somewhat hasty temperament, he was courteous. Like Wellington, he was just and honest, but he lacked Wellington's iron sternness.

Courage.—By nature Wellington was temperamentally daring. He made for victory at all hazards with a calmness and self-possession which were unshakeable. He had great self-reliance and never shirked responsibility.

Wolfe also was a man of great valour and indomitable spirit; although impulsive he was not rash, and he had the merit of never displaying anxiety nor despair. He also welcomed responsibility.

Judgment.—Wellington possessed great shrewdness and was a penetrating judge of character, and *particularly knew the Oriental*. He was always looking ahead, and could picture the other side of the lines.

Wolfe also possessed good judgment, and could estimate character. He was exceptionally quick in taking advantage of every opportunity.

SUMMARY.

Our ideas can be summarised as follows :—

(1) Individual Morale is the product of—

(a) Enthusiasm : the result of the high ideals of duty, loyalty, patriotism and *esprit de corps*, and of the ambition to succeed. The ideals once inculcated must be continually refreshed for they wane with monotony, discomfort, injustice, inaction and fatigue.

(b) Confidence : the product of knowledge, strength, skill and trust in superiors. It is produced and maintained by education, training, health, discipline, *esprit de corps*, organization, equipment and leadership.

- (2) Collective Morale must be based upon individual morale ; it cannot, however, be influenced by reason. Governed by sentiment, habit and confidence, it is best produced and maintained by efficiency, clean living, good environment and leadership.
- (3) Good leadership necessitates—
 - (a) A capable mind, which is the product of :—
 - (b) Reason, inspired by high ideals and directed by knowledge, efficiency, energy, judgment and self-confidence.
 - (c) Imagination, which must envisage the circumstances of one's own forces as well as the enemy's.
 - (d) Will, strong and energetic enough to carry through any resolution.
 - (e) The power of creation, i.e., the ability to effect surprise by originality.
 - (f) Sound judgment of character and ability in others.

Finally, leadership necessitates such personal attributes as honesty, justness, courage, physical energy, an even temper, simplicity and tact ; last, but not least, a leader should realise his own weaknesses and limitations.

FOCH

By BRIGADIER-GENERAL SIR J. E. EDMONDS, C.B., C.M.G.

TO realise the greatness of Maréchal Foch one must measure his qualities and weigh his achievements against those of the few soldiers who held similar high command in the Great War: Moltke, Falkenhayn, Ludendorff, the Grand Duke Nicholas and Joffre. When Foch, in April, 1918, was unanimously chosen by the Allies to take command of their united forces on the Western front the situation was in confusion. There had been a heavy set back; defeat, if it had not already arrived, seemed imminent, and there was no machinery for a united command. Nor, indeed, could united command be exercised in the absolute way possible to the German Supreme Command in France. Foch himself has said:

"United command! Nothing but a phrase . . . Allies take a lot of handling. You can't order them about. The British are one thing, the Americans are another, the Belgians and Italians again are different. With the Allied generals I could not deal as with our own. They were men of eminence who stood for the interests of their countries. They did not see things as we did. They chafed under the united command, although they accepted it loyally. But the smallest thing might have upset them and set them at variance. I could not give them peremptory orders; that would have been no good at all. I had to listen to them. Talks in the morning; talks in the evening—for several days if necessary."

It might be added that, when a real improvement of his plans was suggested by one of the Allied generals, such was his reasonableness that he accepted it and adopted it whole-heartedly. In the case of the important changes frequently proposed by Haig, founded as they were on the realities of the ground, the strength of the enemy, and the capabilities of the troops, Foch hardly even demurred, and in the end always agreed to them.

In such circumstances, in face of an apparently hopeless situation, after nearly four years of fruitless effort, with a powerful enemy in front, and dealing with very much larger forces and infinitely more elaborate military machinery than any commander had handled before, he evolved order, stemmed the enemy's attacks and converted imminent defeat into decisive victory. It was a triumph of genius and character.

Moltke, when his plan elaborated in years of peace failed to attain the rapid success expected, at once collapsed and broke down. Falkenhayn took over command in circumstances very nearly as difficult as Foch. He restored the situation, but after renewing the attempt to carry out the original idea of envelopment of the Allies' left and failing, he lost heart and resorted to half measures which broke the *moral* of the German army. Ludendorff, equally, took over charge in far from favourable conditions; his defence in 1916 and 1917 and his attacks in 1918 showed that he could conceive great operations, and take some of the risks inseparable from success in war. But he would not, fearing his opponents and dreading their counter-strokes, take the last risk: "he had not," as General Hoffmann, his great assistant, has written, "the firm will to win victory." When affairs went badly, his nerves gave way; he fussed his subordinates and, to relieve his feelings, interfered in their spheres, ordering by telephone the disposition of even single battalions. Finally, in disaster he could conceive no solution but to gain time by begging for an armistice. The Grand Duke Nicholas was unable to control the Russian front as a whole, and unfortunately gave his attention to the wing which was least vital; so he suffered a defeat, at Tannenberg, far more important strategically than tactically, from which the Russians never recovered. He was never, however, discouraged, and comes perhaps next in order after Foch as a commander of million-armies. Joffre had one quality of Foch's mould, imperturbability in adverse circumstances; but whilst Foch was the heart and soul of the operations, conceiving the plan by the inspiration of his own words, using all his energy and eloquence to force its conversion into reality, Joffre, according to Foch's own judgment, originated nothing, sitting silent, impassive and calm as a judge to pass verdicts on the plans submitted to him. His influence was soothing rather than dæmonic.

The process of the development of such a character as Foch's—even his handwriting became more determined as he grew older—will no doubt be told fully one of these days. Shunning publicity as he did, we have little to go on but his rise in the army, his books, and some of his phrases repeated by those who came into personal contact with him. He seems to have entered the army because his teachers found that he

had a mathematical mind and would do well at the Ecole Polytechnique. As a "postard"¹ he entered the school at a disadvantage, and was subjected to the lecture delivered to such by a senior cadet admonishing them, "à se défaire de la tournure d'esprit qu'ils avaient dû contracter dans les établissements d'où ils sortaient." His strong religious convictions were not at any time of his service calculated to improve his professional prospects, but he rose in spite of them.

The first step in his progress was his obtaining entrance to the French Staff College in 1885. He passed out fourth. The second step was his return to the College in 1895, at the age of 44, as professor. So far he had written nothing, but some one, as yet unknown to the public, had discovered that he was well read, could instruct and fire his subordinates. One of his contemporaries has said of him that he had no personal ambition for advancement. His only thought was to obtain the triumph of his ideas, and to these he clung with all the faith of an apostle. His promotion came because others realised his power and talents: Clemenceau, who made him head of the Staff College; Joffre who selected him to command an Army and then a Group of Armies; and the men of the Doullens Conference who made him commander of all the Allied troops on the Western front.

The lectures which he gave during his five years' tour of duty at the Staff College were subsequently published in book form as "Des Principes de la Guerre," and "De la Conduite de la Guerre." They went through many editions. Not only did his teaching have a vital influence on those who heard it, but his books were widely read, as they were recommended for study to all competitors for entrance to the College. His views, coinciding as they did with the doctrine of the General Staff, permeated the whole French army, and, as applied without his guiding hand and reservations—reconnaissance and "fixation" of the enemy—were responsible for much that happened in 1914. British military methods and principles are founded on practice and experience; an attempt to evolve an art of war by philosophic processes makes no appeal to us, and Foch's books were little read here. Founded on a close study of the Napoleonic campaigns and the war of 1870-1, he sought to discover not so much the principles of successful strategy, but the underlying psychologic basis of victory.

Delving among the phrases and aphorisms with which his text abounds, one finds, however, that his main operative thesis is "There is no salvation outside the offensive." There continually occur such dicta as:—

¹ That is prepared for the entrance examination at a Jesuit College in the rue des Postes.

"Henceforward strategy can no longer prevail against that which assures and aims at tactical results. Victory in battle. . . . It is the initiative which must be secured everywhere. It is the offensive that must be launched at every point. . . . There is only one method of dealing with an opponent: that is to fight him, and, for that matter, to overthrow him. Hence the idea of shock, composed of two elements, mass and impetus. . . . Modern war only knows one argument, the tactical act, battle. . . . Attack equals victory . . . [and forgetting Austerlitz and Waterloo] never can the defensive lead to the enemy's destruction."

In the autumn of 1914 in Flanders he acted up to his precepts by showing the greatest objection to a defensive attitude, and he allowed rear lines to be made only as a concession to the odd ways of the British.

Foch laid down at the very beginning of his teaching, "*un seul critérium, la raison*"; but now that the war has been fought it is evident that there was some false reasoning in his early views. It appears that he himself came to this conclusion. It has been said by M. Engerand, in his "*Secret de la frontière*," that, after the stabilization of the front, Foch had the intellectual courage to say to his staff:

"Gentlemen, it remains for you to forget what you have learnt, and for me to do the contrary of what I have taught you."

More vital, as it turned out, than his cult of the offensive was his insistence on the force inherent in the power of will of a commander, and in practice it was his "will to victory" which went more than half-way to ensure success. His favourite quotation was "A lost battle is a battle that one believes lost." One can realise the effect of Foch's words on General Maud'huy at Arras in October, 1914:

"There are three courses. You can retire, stand fast, or attack. I forbid the first. You can take your choice of the other two."

It was the power of driving others "to the battle" which made Foch supreme. With a minute staff, little more than a personal one, he wielded great masses, appealing not to the troops, but only to the higher commanders, whom he trusted to pass on his spirit; he gave only general directions, and never in the slightest degree interfered in details.

Many legends have grown up about Foch's operations in the early days of the war. It was spread abroad that it was his impulsive spirit

in the first advance which led to the XXth Corps, which he commanded, being taken in flank and driven back, thus occasioning the retirement of the whole of Castelnau's Army. Foch was moved to write to the *Revue des Deux Mondes* to defend his troops, not his own reputation, and point out that he advanced and retired by order. His phrase: "Mon centre cède, ma droite recule, situation excellente, j'attaque," will probably live for ever; but, contrary to legend, he did not win the battle of the Marne, by driving the Prussian Guard into the Marshes of St. Gond, for it had disappeared long before the counter-attack which he had ordered took shape. Whether this movement was being made in the right direction in view of the fact that the German Second Army had been wheeling so as to face westward will be matter for discussion when the French official account of the battle is published.

It has been claimed by legend that he prevented Sir John French from retiring at Ypres in October, 1914; but the whole of the details of the alleged incident refer not to "First Ypres" but "Second Ypres" in April-May, 1915, when the French on the British left having fled on the occasion of the first gas attack, Sir John French was compelled to consider the withdrawal of his line in order to conform. On the appeal of Foch, however, he postponed the retirement for several days in the hope that the French would regain the ground which they had lost.

It has been a puzzle to many why Foch was promoted rapidly from corps commander to control of a Group of Armies and deputy of the Commander-in-Chief, whilst so many other French generals were removed from their commands. An eminent Frenchman has explained that it was due to his being one of the few high officers who were "genuinely loyal to Joffre." He was, as ever, thinking only of the cause, not of his own advancement. In this spirit, he took his temporary eclipse in 1917, and carried out the unimportant duties then assigned to him. He said truly that "greatness does not depend on the size of your command, but on the way in which you exercise it."

It was in this spirit, too, that he took up the supreme command. How discreetly he exercised it has already been mentioned. His authority, however, was so great that it was not shaken by the great German attack on the Chemin des Dames, which he had considered a quiet front suitable for resting troops. There are, indeed, few "mistakes" on Foch's record in 1918, and by that criterion alone he must be ranked very high among the commanders of all time.

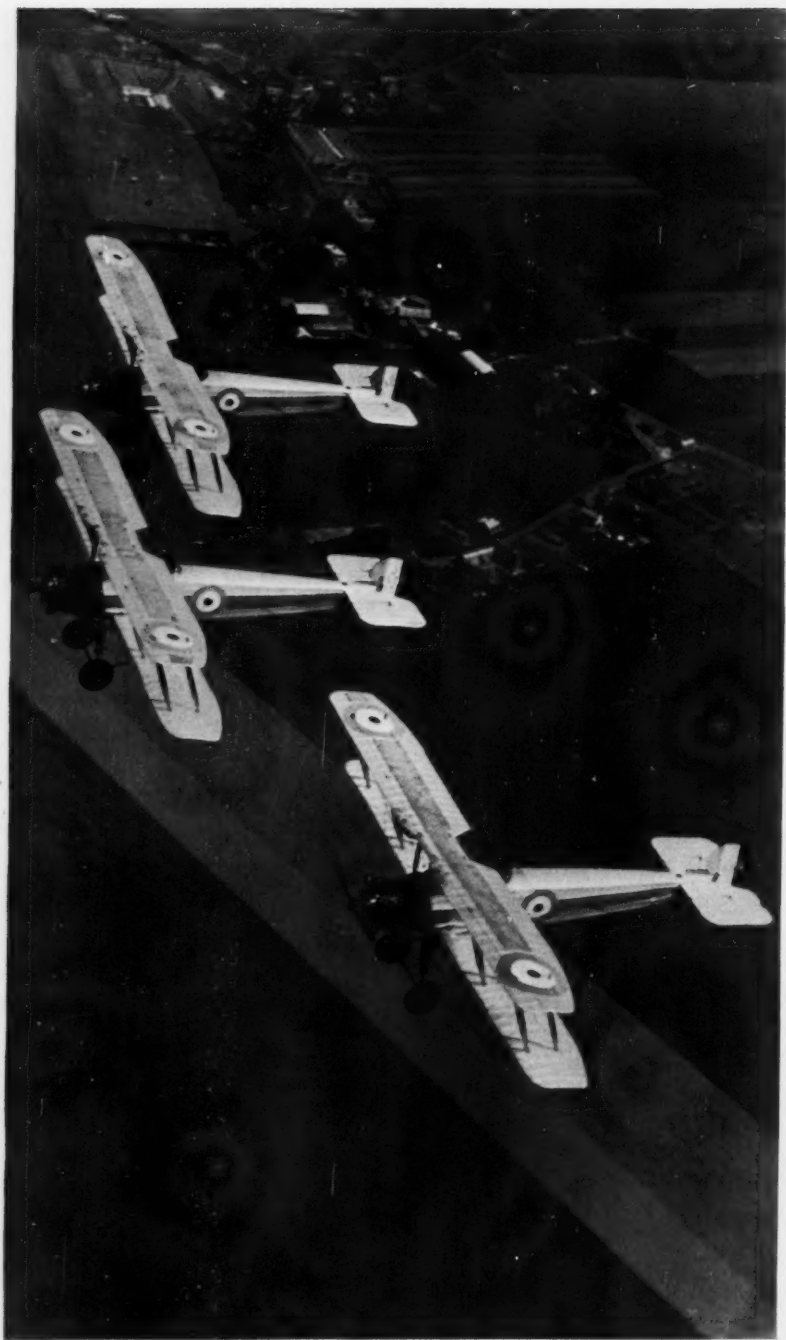
In the moment of victory, when a word from him would have postponed the grant of the Armistice, and undoubtedly associated his name

for all time with a crushing defeat of the Germans in the open field, he showed the moderation of a really great mind. The conditions which the enemy accepted had achieved the purpose of the Allies, and he maintained that he had no right to shed one drop more of blood. For him it was sufficient reward that he had restored France to the place which she had held before 1870.



Imperial War Museum Photograph.

MARECHAL FOCH.



THE OXFORD UNIVERSITY AIR SQUADRON.
A FORMATION FLIGHT OF LYNX AVROS.

THE CADRE, AUXILIARY AIR FORCE, AND UNIVERSITY AIR SQUADRONS

By WING-COMMANDER A. G. R. GARROD, M.C., D.F.C., R.A.F.

On Wednesday, 16th January, 1929, at 3 p.m.

SIR PHILIP A. G. D. SASSOON, Bart., G.B.E., C.M.G., M.P.,

Under-Secretary of State for Air, in the Chair.

THE CHAIRMAN introduced the Lecturer, stating that he was the Chief Instructor of the Oxford University Air Squadron.

LECTURE.

INTRODUCTORY.

DURING the past few years lectures have been delivered in this Institution on the Royal Naval Reserve, the Royal Naval Volunteer Reserve, and the Territorial Army. It is now my task to round off this series by describing to you those Air Force units which contain, to a greater or lesser extent, a proportion of non-regular personnel.

I intentionally refrain from calling them Reserve units, since none of them answers strictly to this description, seeing that all of them (except the University Squadrons) form part of the first line units for the air defence of this country. Consequently I shall not describe that general Reserve of Personnel which provides drafts to replace the first casualties of war, viz., the Reserve of Air Force Officers and the Royal Air Force Reserve of Airmen, but shall confine my remarks to the Cadre and Auxiliary Air Force Squadrons, i.e., to those units which contain a proportion of non-regular or volunteer personnel. I shall then deal with the University Squadrons, which in most respects resemble Officers' Training Corps.

I.—THE CADRE AND AUXILIARY AIR FORCE SQUADRONS.

Their Origin.—In 1923 His Majesty's Government decided to adopt a one-power standard of air defence and to maintain for this purpose enough squadrons in this country to defend it against the strongest air force within range. The requisite number of squadrons was fixed at

fifty-two, some of which were to be fighter squadrons allotted for close defence, i.e., the interception and destruction of invading aircraft, while the remainder were to be bombing squadrons allotted for the counter attack of military objectives in an enemy's country.

From the outset it was realised that the whole success of the fighter squadrons depended on their ability to get into the air in squadron formation at extremely short notice; that is, they must be drilled to work with the speed and precision of a fire brigade. This condition necessitated the allotment of none but regular squadrons for this work.

With the bombing squadrons, however, though a high standard of formation flying, bomb aiming, and air-gunnery would be essential, yet there would rarely be the same necessity for extreme rapidity of action in getting into the air. The bombing squadrons therefore lent themselves to a scheme of manning with "part-time" personnel and it was decided to organize thirteen squadrons, or a quarter of the total Air Defence Force, on a "part-time" or non-regular basis.

Reasons for Scheme.—It was obviously desirable to adopt some such scheme, for two main reasons:—

- (a) To make for economy, since regular personnel are bound to cost more in peace time than volunteers;
- (b) To stimulate the widest possible interest in the air defence of this country, and to base our security in this matter on as wide a foundation as could be procured.

There is no need to stress the point that the vitality of our fighting forces in war must depend upon a steady flow of reinforcements from the nation at large. The Navy is fortunate in this respect, in having behind it a large sea-faring population in these islands. But the growth of aviation has not been entirely natural. It was artificially forced during the Great War. This resulted in a one-sided stimulus to military aviation, with the consequence that it is only now that civil aviation is coming into its own and an "air-faring" community is beginning to arise. Therefore it was decided to foster this wider interest in aviation generally, and in air defence in particular, by forming a certain number of air defence squadrons with non-regular personnel.

Now of these thirteen squadrons it was decided that (a) seven should be Cadre Squadrons; and (b) six should be Auxiliary Air Force Squadrons, the main difference between these two types residing in the proportion of regular personnel which they were to contain.

Difference between the Two Types.—The Cadre Squadrons, as their name implies, contain a strong nucleus of regular personnel, amounting to about a third of the establishment of single-engine squadrons and

to a half of the establishment of twin-engine squadrons. This means that in Cadre Squadrons the commanding officer, the majority of the headquarters, and the whole of one flight, consist of regular personnel.

In the Auxiliary Air Force Squadrons, on the other hand, there are only three regular officers, the adjutant and his assistant and the stores officer; and only about one-sixth of the airmen are regulars, just sufficient to form the backbone of the administration and to provide instructors. The remaining officers and men, including the commanding officer, are Auxiliary Air Force personnel. The Cadre Squadrons in some respects thus resemble the old Militia, the nearest modern equivalent of which lies, I suppose, in those units which are partly manned from the Army Supplementary Reserve. While the Auxiliary Air Force Squadrons resemble the present units of the Territorial Army.

Reasons for having the Two Types.—The reasons why, in view of the very small number of squadrons to be formed, two types of units were adopted are the following:—

- (a) It was thought that the Cadre Squadrons would appeal to the type of officer who preferred to belong to a regular unit of the Service, and was prepared to devote a continuous period of six months to his initial training, at the end of which he would be as efficient as his brother officers in the regular flight.

The Auxiliary Squadrons, on the other hand, were thought to be likely to appeal to the officer who wished to combine an interesting hobby with the desire to serve his country, and who, while unable to spare a continuous period of six months, was prepared to give frequent part-time attendance for flying and ground instruction.

- (b) With regard to airmen, the scheme was so devised that the Cadre Squadrons should only accept men who were already skilled in some trade closely allied to their trade in the squadron, and who would therefore require but little additional training.

The Auxiliary Squadrons, however, were prepared to accept a man who wished to widen his technical knowledge by learning a trade less closely allied to his trade in civil life. They also provided an opportunity for a specially intelligent and keen man to learn a new trade altogether.

- (c) Then, again, each Cadre Squadron, owing to its strong regular nucleus, could be regarded as the equivalent of half a squadron from the date of its formation, whereas the Auxiliary Squadrons were bound to take some time to train their non-regular personnel.

It will thus be seen that the Cadre Squadrons, on paper at any rate, were relatively more favourably situated for becoming rapidly efficient.

(d) Finally, the Air Ministry wished to retain some at least of these thirteen squadrons under its own entire control at any rate during the experimental stage. The seven Cadre Squadrons will all be controlled, in peace as well as in war, by the Air Ministry entirely.

Other Points of Difference.—I would further like to describe certain lesser points of difference between the two types:—

(i) *Flying Training.*—I have already mentioned that officers joining Cadre Squadrons were expected to devote six months to their initial flying training, being sent to a regular Flying Training School for this purpose. It was foreseen, however, that the stipulated six months might have to be broken into two or more periods, and, moreover, that these officers might have to be trained in some regular unit other than a Flying Training School, or even in the regular flight of their own Cadre Squadron.

The Auxiliary Squadrons, on the other hand, were thought to have too small a staff to train their own officers, and as these officers were not intended to give up a continuous period for their initial training, it was stipulated that they should learn to fly at a civilian flying school and obtain a refund of their expenses on receiving their commissions. This scheme, it was thought, would stimulate enthusiasm on the part of the officers while subsidizing civil flying enterprise.

Apart from initial flying training, the amount of time which officers are expected to devote to their annual training is about the same in both types of squadron.

(ii) *Title of Personnel.*—The non-regular personnel of the Cadre Squadrons are described as "Officers and Airmen of the Special Reserve serving in Royal Air Force Squadrons." This title makes it clear that these squadrons are skeleton regular squadrons, which are brought up to full strength by Special Reserve personnel.

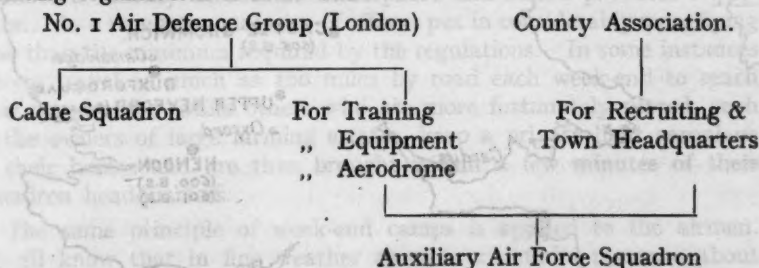
The personnel of the Auxiliary Squadrons are described as officers and airmen of the Auxiliary Air Force, which is thus seen to be a distinct organization from the Regular Air Force, standing in the same relation to the latter as the Territorial Army bears to the Regular Army.

(iii) *Liability for Overseas Service.*—No officer or airman of the Auxiliary Air Force is liable for overseas service unless he volunteers in writing.

In the Special Reserve, however, officers are liable to be sent overseas if and when a proclamation is issued calling out the Air Force Reserve. Special Reserve airmen do not normally engage themselves for overseas service, but the regulations provide for enlistments to include such liability.

(iv) *Organization.*—The Cadre Squadrons are entirely under Air Ministry control, just like any other regular squadrons. But the Auxiliary Air Force Squadrons are raised and maintained on a territorial basis by the Territorial Army and Air Force Associations. The control exercised by these Associations is not so complete as in the case of the Territorial Army units, since they are not responsible for any matters arising at the aerodrome. They are, however, concerned with the recruiting and selection of officers and men, with the finding and maintenance of the town headquarters and with the administration of an Air Ministry grant received for these purposes. So much for the points of difference between the two types.

Command.—The entire command of the Cadre Squadrons and the control of the Auxiliary Air Force Squadrons in all matters not dealt with by the County Associations are vested in the Air Officer Commanding No. 1 Air Defence Group with headquarters in London. The resulting organization is as follows:—



This arrangement has the advantage of ensuring co-ordination of training and attention to the many individual difficulties that must arise during the early growth of these squadrons.

Location.—The location of the squadrons has been designed to meet two requirements. First and foremost each squadron must be near some large industrial centre which might be expected to supply the non-regular personnel. Secondly, it was desirable to scatter the squadrons, so as to spread the gospel of aviation and the interest in air defence over as wide an area as possible.

Considerations of economy must, to some extent, restrict the range of choice, since it is obviously cheaper to open an old war-time aerodrome than to construct a new one.



The map shows the location of the squadrons already formed, together with their parent cities.

Training and Life.—I will now give a few details regarding the training and life of these squadrons. The first point worthy of notice is that there has been a marked tendency for the differences in the scheme

of initial flying training in the two types of squadrons to disappear. It was soon found that only a few of the officers wishing to join the Special Reserve were in a position to spare a continuous six months' absence from their civil employment. And so now the 183 days may be spread out over a year at the convenience of the officer. It follows at once that the only place where such intermittent flying training can be carried out is in the regular flight of the Cadre Squadron itself. Similarly in the Auxiliary Air Force Squadrons it was found more desirable in many cases for the officer candidates to be trained from the outset in the squadron rather than at a civil flying school. The result has been that both types of squadron, to a great extent, train their own officers *ab initio*.

In both cases officers are usually able to start off by giving up a continuous week or more for the purpose. Thereafter they come in to live at the Squadron during the week-ends, and in the summer time advantage is taken of long week-day evenings when the air is usually calmer than it is during the middle of the day. Many officers will then stay the night at the Squadron so as to get in some flying in the early morning. Week-end camps and evening and early morning flying are strongly encouraged for trained officers as well as for novices, since they promote a healthy aerodrome atmosphere and afford practical experience. As a result the majority of officers put in considerably more flying time than the minimum required by the regulations. In some instances officers travel as much as 100 miles by road each week-end to reach their aerodrome; while others who are more fortunately placed, such as the owners of large farming estates, keep a private light aeroplane at their homes and are thus brought within a few minutes of their Squadron headquarters.

The same principle of week-end camps is applied to the airmen. We all know that in fine weather there is a definite romance about camping out, especially for men who normally live and work in towns or cities. So there is little difficulty in getting the airmen in summer to come out to the aerodrome after work on Saturday and to stay till breakfast the following Monday.

But the culmination of the year's work is at the annual training of fifteen days in August, when the whole squadron functions as a unit. In spite of the obvious difficulties in the way of carrying out any combined training, in 1928 three of the Auxiliary Air Force squadrons took part in the Air Exercises (which coincided with their annual training) and acquitted themselves most creditably.

Individual Training Scheme.—It may now be asked how it is possible to control the progress of training which—except at the annual

fortnight's camp—is carried out so intermittently and individually. Here, I think, it is fair to state that the Air Force is in rather a fortunate position, because, although there is really no limit to what a pilot can usefully learn to make himself more efficient, yet this training can proceed individually without the presence of all the other individuals of his unit. The young pilot will derive interesting experience and valuable training in simply gaining flying experience and improving his airmanship. He can then train himself in air pilotage, in air photography and in bomb aiming. It is not until he comes to formation flying and air fighting that the presence of other pilots is essential.

Similarly with the ground training of both officers and airmen: with the apparatus and the manual before him, an individual can train himself and make notes of difficult points for explanation later by an instructor.

Full advantage is taken of this characteristic in the training of officers in the Cadre and Auxiliary Squadrons as well as in the regular Air Force. Each officer receives a book in which the knowledge to be acquired in each subject is clearly set out in a number of lessons with full references to the appropriate manuals. Examining officers visit units from time to time and a pupil can submit himself for test in as much of his various subjects as he cares to cover. If he passes, then the examiner initials the book opposite the lessons concerned. Similar books are now about to be issued to all airmen in the Cadre and Auxiliary Squadrons.

Under this method the onus of instructing himself is farmed out to the individual who can progress as fast as he is able, or as slowly as his limited intelligence may compel. The large lecture class is eliminated with all its attendant disadvantages. I think it is true to say that most lectures are a waste of time. It is not the lecture, but the ensuing discussion which is really valuable. And that is why the Air Force is so fortunate in being able to apply this system of individual training. It also means that Air Force conditions are peculiarly well suited to the training of semi-regular personnel who are only able to attend at their units spasmodically and as individuals.

Résumé.—I will now briefly recapitulate what has been said, before describing the University Squadrons and treating of future developments.

The Cadre and Auxiliary Air Force Squadrons form a quarter of the strength allotted for the air defence of this country. This means that they have a heavy responsibility to bear and that they merit in consequence strong interest and support from the country at large.

Though the scheme provides for two types of squadrons, some of the differences distinguishing them have in practice disappeared. The

Cadre Squadrons have had to extend the initial training period, and, in some cases, the Auxiliary Squadrons have had to train their own officers.

The location of units has been decided partly by the existence of an aerodrome in convenient proximity to a manufacturing city, and partly by the desire to spread an interest in air power over as wide an area as possible.

The individual training system in vogue in the Air Force has been applied to these squadrons, for which it is specially suitable.

Extreme keenness has been shown by all personnel and in many cases officers have done more flying than many officers of similar rank in regular squadrons. Many examples might be adduced to illustrate the high *esprit de corps* and devotion of all ranks.

Lastly, I will add that recruiting is going well. Numbers have been doubled in the last eighteen months. Units now possess some 80 per cent. of their establishment in officers, commissioned or learning to fly, and 96 per cent. of their establishment in airmen. The policy of a rigorous selection of only the best personnel is followed, and is proved by the fact that applications have been rejected from 170 per cent. of the establishment of officers and 290 per cent. of the establishment of airmen.

II.—THE UNIVERSITY AIR SQUADRONS.

Object.—The Air Squadrons at Oxford and Cambridge were formed in the autumn of 1925 with a two-fold object.

First of all, there was the wider and more general object of promoting an interest in aviation among the members of these two Universities, and of enlisting their aid in solving the many technical problems of aeronautical science.

Secondly, there was the more concrete object of encouraging a flow of applicants for commissions in the regular Air Force or in the Reserve of Air Force Officers.

Each squadron started with twenty-five members, increasing to fifty its second year and seventy-five its third year, and no difficulty has been found in obtaining these numbers. In fact, now that the squadrons have reached their limit of expansion there are at least two applications for every vacancy that occurs.

A squadron headquarters with full facilities for ground instruction is provided in each University city, while flying instruction takes place in a Service flight, specially allotted for this purpose at the nearest Air Force station. The object of the ground instruction is to ensure

that each member has passed written examinations in the four essential subjects of Airmanship, Air pilotage, Rigging and Engines, by the end of his second year in the squadron. He can then proceed to specialise, if he wishes to do so, during his third year, in wireless, photography, armament or any other subject. The aim in the flying training during term time is to give each member one half-hour period of flying each week. This is not sufficient for any solid progress to be made, but it is sufficient to prevent any falling back from the stage reached by each member during what is the culmination of the whole squadron's work, namely the Annual Attachment or Camp. This takes place at a regular Air Force station at the beginning of the long vacation and each member attends for a continuous fortnight. It is here that tangible results can be achieved and the fortnight is just long enough to enable the average member to get in a certain amount of solo flying if not during his first, at any rate during his second, Camp. The object is that every member, by the end of his second year, shall have received at least fifteen hours' flying instruction, including at least three hours' solo.

**Proficiency Certificate.*—Those who have attained this standard of flying and successfully pass their written examinations in ground subjects are awarded a Certificate of Proficiency, which among other things qualifies them for solo flying in term time.

Comparison with C.U.A.S.—The Cambridge squadron started with a distinct advantage since there was from the outset an Air Force station ready to hand at Duxford only nine miles from the University. Cambridge therefore were able to start flying in the autumn of 1925.

Oxford, on the other hand, had to wait until Upper Heyford aerodrome, which is fifteen miles from the city, was opened in November, 1927. But now that Oxford enjoys the same privileges in regard to flying as Cambridge the flow of candidates into the Reserve from each University will be about equal, and moreover, there is a distinct prospect that Oxford and Cambridge will provide the majority of each year's direct entry into the Reserve from civil life.

Another feature of the Cambridge Squadron is its close association with the Engineering School of the University, many of whose staff served in the Air Services during the Great War. The Squadron headquarters are situated in the grounds of the Engineering Laboratories, and this proximity favours a constant interchange of visits and ideas between the staff and the undergraduates of the two organizations.

Finally, Cambridge has a Professor of Aeronautics, whose laboratory again is alongside the Engineering School and the Air Squadron headquarters. Lastly, the Squadron premises are used for lectures to members of the University taking aeronautics as a subject for their degree.

Consequently at Cambridge the Air Squadron has in the nature of things assumed a more technical and scientific tone than at Oxford, and the ground was already prepared for enlisting the interest of the brains of the University in aeronautical research, which was one of the objects with which these squadrons were founded.

But the life and training and standard of proficiency are similar in both squadrons. The aim of both is that the claims of the squadron should not interfere with a man's University career, but should merely absorb part of the time normally devoted to amusement. Apart from the couple of hours a week given to flying, a member can become proficient in his ground subjects by attending each week one evening class lasting just over an hour, either before or after dinner. Both flying and ground training are arranged to suit the convenience of members, who can always change their times of attendance if these clash with other important engagements. The only obligation which a member incurs is that he will do his utmost to gain the Squadron Proficiency Certificate. The standard of this Certificate is about the equivalent of the first term at a Flying Training School and considerably higher than that required for a private pilot's flying licence, and members gaining this Certificate have their names recorded at the Air Ministry and thus form a potential Reserve for war. But apart from all this it is beyond question that these squadrons are doing much to develop an understanding of aviation and a truer air sense among important members of the rising generation.

III.—FUTURE DEVELOPMENTS.

In conclusion I will put forward a few personal views on the future.

(I) THE UNIVERSITY AIR SQUADRONS.—I have dwelt on the alliance that has been formed at Cambridge with part of the scientific activities of the University. Now Oxford as a University is more noted for its Schools of Philosophy, History, Literature, Law and, in fact, all those subjects which may be classed together as "humanistic." It would be the greatest mistake to suppose that aviation in general and the Air Force in particular have no use for men trained in the Oxford Schools. The war of 1914-18 proved that for staff work and positions of command a humanistic training was if anything more valuable than a purely scientific one. And so in the future I foresee Oxford supplying every whit as many recruits to the cause of aviation as Cambridge, though they may be less interested in the purely scientific side.

Then again at Oxford there are several men on the staff of the Physics School who served with distinction in the R.A.F. during the Great War in research work on bombs and bomb-sights, and in this

aspect of aeronautical research an alliance between the Squadron and the University is being formed.

There is also a strong and important medical school at Oxford whose assistance in connection with the medical aspects of flying, especially at high altitudes and extreme speeds, will in the future be most valuable.

So far as concerns the more concrete results to be expected, I anticipate that, within a year or two, two-thirds of each squadron will hold commissions in the Reserve of Air Force Officers and that 100 per cent. of second-year members will have gained Proficiency Certificates. There are to-day so many more applicants than vacancies that it is possible to call upon a slack member to make room for another who is waiting to join.

Permanent Commissions.—With regard to permanent Commissions, I see no reason why each University should not produce in the future from ten to fifteen candidates a year. The number at present is not more than two or three, but this is largely due to the fact that enough is not known of the advantages offered by a career in the Air Force. The pay and prospects compare most favourably with those in the Home Civil Service and there must be many young men who enter the Civil Services as a matter of course, but who would have preferred the more varied life in the Air Force, if only they had known earlier that it offered similar prospects and emoluments.

(2) THE CADRE AND AUXILIARY AIR FORCE SQUADRONS.—I have already said that there has been a tendency for certain of the original differences between these two types to disappear. There is also a feeling that the Auxiliary Squadrons need a slightly larger regular nucleus, while the Cadre Squadrons could manage with a smaller one. Again, though the Auxiliary Squadrons have been very fortunate hitherto in finding keen and efficient commanding officers, this may not always be possible and it might simplify things greatly if the scheme allowed for a regular Commanding Officer in the event of a volunteer not being forthcoming. Eventually, when the present junior officers in these squadrons have gained sufficient experience and seniority it is hoped that one of them will rise to command his A.A.F. Squadron.

So perhaps the solution may be found in having only one type of squadron supplementing the wholly regular squadrons allotted for Air Defence; and for this one type to be half-way between the present two types in its proportion of regular to non-regular personnel, with a regular or non-regular commanding officer according to circumstances.

Another point that strikes one in visiting these squadrons is the importance of having the aerodrome close to the city supplying the personnel. In this respect the squadron in Northern Ireland is unlucky,

for the aerodrome at Aldergrove lies sixteen miles outside Belfast. Other disadvantages lie in the innumerable small fields into which the country of Northern Ireland is divided (thus providing few, if any, temporary landing grounds) and in the frequent mists and low clouds which hang around the district North of Belfast. On the other hand, there are plenty of stretches of water, both inland lakes and inlets from the sea, in this part of Ireland and one cannot help feeling that a seaplane unit would thrive more favourably in these surroundings than a night-bombing squadron. There is a wide stretch of reclaimed land in Belfast harbour that would make a good combined aerodrome and seaplane station. Might it not be possible to use this land for that purpose?

There is one other development which the future may hold in store. The squadrons already formed have made more rapid progress than was at first thought possible, and their present ambition is to prove themselves to be as efficient in all respects as the regular squadrons. Should they succeed in their aim it might be possible to extend the scheme to cover more than a quarter of the Air Defence Force in this country. Of course the limit of such an extension is fixed in any case by the need for overseas drafts and by the number of squadrons which must be kept on a mobile basis in the event of a sudden emergency abroad. But the latter difficulty might be met by revising the overseas liability of non-regular personnel. In any case there is no doubt that such an extension would lead to economy, or alternatively would enable a greater number of squadrons to be formed.

I trust that I have shown how any undergraduate going up to Oxford or Cambridge can there learn to fly under the best conditions of training. Moreover, I have tried to explain how, whether a young man goes up to the University or not, he can still find an ideal opportunity for combining service for his country with an interesting hobby by qualifying for a commission in the Special Reserve or the Auxiliary Air Force. Lastly, I would emphasize the fact that this training, in common with all flying training, exercises a valuable influence on the character by developing qualities of self-reliance, quick thinking, self-restraint and sound judgment.

DISCUSSION.

GROUP-CAPTAIN GOSSAGE: There is just one small matter in regard to which I would like to make an observation. The lecturer said that, in the original conception of the Cadre and Auxiliary Air Force scheme, it was contemplated that the flying training of the officer personnel should be conducted at some civilian flying training school. In the course of the existence of these squadrons, however, he showed that it had come about that the aspirant officers could not devote a long period to their training, and therefore had to carry out their

initial flying training at the squadron to which they belonged. The point which arises is this. Are you not to a certain extent cutting the throats of the civilian flying training schools by taking away potential candidates from them and transferring them to the squadrons? That is, I think, a point which requires consideration. I would say, however, in qualification that a large number of the members of the University Air Squadrons take commissions in the Reserve of Air Force Officers, and in so doing have to resort to civilian flying schools. Whether as a matter of fact, the quota from the Universities balances out with what the civilian flying schools ought to receive from the Cadre or Auxiliary squadrons is a point on which the lecturer may be able to inform us.

WING-COMMANDER A. G. R. GARROD, in reply: When it was decided that officers joining the Auxiliary Air Force Squadrons should already hold Licence A, which should be obtained in a civil flying school, the object was to promote activity in the civil flying schools, in other words, to subsidise civil flying; and also to ensure that an officer was really keen about the job before he was given a commission in the Auxiliary Air Force Squadron. There are various reasons why, in some cases, officers have been trained in the squadrons themselves. Sometimes there may not be a civil flying school available near the home of the candidate for the commission. Then, of course, there are certain advantages in training the candidate in a service unit. One is that the unit has the control of the officer's training from the very beginning. Another is that, in some cases, the local civil flying school may be so busy that the young officer would get more flying by being trained by the adjutant of his future squadron. At the same time, it is true that there is less need to subsidise civil flying enterprise to-day than existed three years ago when the Auxiliary Air Force scheme was launched.

THE CHAIRMAN: I think the lecturer has presented an admirable statement of the differences that exist between the various kinds of these Air Force squadrons. He has also clearly explained the difficulties arising out of the differences between these squadrons. I have seen much of the work of the Auxiliary Air Force recently, and I was immensely struck last year, this being the first time the Auxiliary Squadrons took part in the air exercises over London, by the great keenness which they showed, their extreme efficiency, the excellent results they achieved, and also the remarkable way in which they set about their work. I have also followed with great interest the work of the University Squadrons. At every one of my visits I am more struck by their increasing efficiency. This is remarkable seeing how limited are their opportunities for flying. Cambridge University, I believe, specialises in engineering and that side of education more than Oxford University, but I do not believe that one could notice very much difference between the two squadrons. Yet I think Oxford has now caught up the lead that Cambridge possessed, and is doing very well. Until permission was given at Oxford for actual flying to take place, the teaching was of an extremely academic nature, but nevertheless the men were just as keen and interested as if they had the opportunity of putting into practice in the aeroplane or the aerodrome the things they were being taught in the schools. One day possibly we shall have at Oxford a University tutor who may be able to take charge of the whole scheme. That is an excellent ideal, because he may be able to get more out of the authorities on occasions than the Air Force officer, excellently as Wing Commander Garrod is winning his way with the Oxford authorities.

The usual votes of thanks to the Lecturer and Chairman were carried by acclamation.

THE SUBMARINE AND ITS ANTIDOTES TO-DAY

By LIEUTENANT-COMMANDER D. E. G. WEMYSS, R.N.

THE early summer of 1918 found the German submarine menace sufficiently mastered by the offensive and defensive measures of the Allies to remove, finally, any fear of it achieving success. The development of the antidotes to submarine warfare had, in fact, just caught up the development of the underwater weapon in the nick of time. The remaining months of the war showed ever decreasing success of the German submarine. Since the war, there has been an inclination to speculate whether the submarine has been so far defeated that it can never again be used to attack sea-borne commerce.

For some time after the close of hostilities a war-weary world stopped the construction of submarines; but within the last few years building has re-commenced and is, at the present time, steadily increasing. It is clear, therefore, that the nations as a whole believe in the value of submarines, and it is equally certain that no country intends to proclaim beforehand precisely to what purpose their submarines will be put in time of war.

In an interview, published in the *Sphere* in December last, Lord Jellicoe said:—

“ I am quite sure that any nation in the future, fighting with her back against the wall, will be bound to employ submarines drastically and especially against enemy's merchant ships.”

It is reasonable to suppose that a similar view is held by most Naval Staffs. They have, therefore, to consider what the improvements in design have done to increase the submarine's scope and to continue to investigate measures which will have to be taken to prevent a recurrence of the state of affairs in 1914-1917, when a new naval weapon almost achieved an astonishing success.

At the outbreak of war the submarine was distinctly a new weapon, since it had never been tested under war conditions, and its full tactical possibilities had not been foreseen. By the end of the war every tactical possibility had been exploited and the submarine had been used for almost every conceivable operation.

THE POST-WAR SUBMARINE.

Since the war, efforts have been directed towards improving the design so as to overcome the disabilities from which it was found to suffer, and in this process of development it had to be considered how far it is possible to defeat the special measures that had been brought into play against it. It may be said at once that the modern submarine has been so improved that, unless the antidotes are found to have developed proportionately, it will be even more effective than it was in 1917.

The modern submarine differs from her prototype of ten years ago in the following respects :—

- (a) Range of action, endurance and surface speed are all greater ; in fact she has developed steadily from a local defence to an ocean-going and ocean-keeping craft.

On the other hand, there has been no important increase in submerged speed and a submarine still labours under the disabilities inherent in a secondary battery for submerged work.

- (b) With the increase in size required for ocean work her handiness and the rapidity with which she can submerge have been maintained and, in fact, improved. Handiness when submerged includes quick turning, good control when changing depth quickly, and ability to keep a set depth accurately by the simplicity of the trimming arrangements and the power of the horizontal rudders. All these qualities are most valuable from a defensive point of view, while increased handiness adds greatly to attacking power when the target is moving fast and zig-zagging.
- (c) Her weapons have improved. The main weapon for attack upon any but small craft, and possibly merchant ships, remains the torpedo ; but a gun of some sort is required in any submarine, else she will be forced to dive or run away from any patrol craft, however small.
- (d) Her means of communication with other ships have been greatly improved, both when on the surface and when submerged. Her vision above water is also better, while figuratively speaking she is less blind when under water.
- (e) An interesting development is that it is now possible to carry an aeroplane.

Thus, the submarine is in important respects a more formidable craft, and though no new tactical possibility is immediately apparent,

the improvements definitely simplify and extend the scope of the operations the war showed to be possible. In the absence of an equal development in counter-measures a modern submarine can do all that her predecessor did during the war, and can do it better.

ANTIDOTES.

Now what are the counter-measures and what degree of success did each of them achieve? The following summary shows the specific causes of the destruction of enemy submarines throughout the war:—

Mines	43
Depth Charges	35
Torpedoes (from submarines, including two cases of submarines working with decoy vessels)	20
Ram	18
Gun	13
Accident (own mines, grounding, etc.)	13
Decoy ships (by gun fire)	11
Air attacks	7
Explosive sweeps	5
Fate unknown	17

182

The submarines so destroyed were occupied upon a number of operations, some against war vessels, others solely in mine-laying, but the bulk of them were in commerce war when their end came.

Of all the weapons in this list it will be noticed that only two are of a nature intended solely for use against submarines, i.e., the depth charge and the explosive sweep; this number may be increased to three if the special use of mines known as the "deep minefield" (i.e., mines laid below the draught of surface ships) is included.

THE MINE.

The highest bag of submarines was secured by the mine and as this weapon also falls by its nature into a class by itself it will be considered first.

The submarine was, and is, particularly susceptible to the effects of an underwater explosion; the rigidity of her pressure hull is a source of weakness, while even a small leak may prove fatal if sea water finds its way into the batteries and causes asphyxiating fumes. It was generally accepted in 1918 that 150 lbs. of high explosive and probably as little as 100 lbs. in contact with a submarine would ensure her destruction.

It does not seem likely that any appreciable improvement in resistance to underwater explosion can be made in the design of the submarine, other than by a considerable increase in size and sub-division. Even this would be no real improvement, for it could be countered by the simple process of increasing the charge in the mine, the latter being still within normal limits.

The only partial antidote to the mine that the war produced, other than the building of "bulges" on the larger warships, was the paravane. But the paravane is not a very practicable form of protection for a submarine, and, moreover, it is probable that the mine can be made to defeat the paravane, even if this development has not already been achieved. An American design during the war provided a mine with 40 feet antenna above it, giving the effect of a live mooring wire.

In the use of mines against submarines, two difficulties have to be met :—

- (1) In waters where there is an appreciable rise and fall of tide, mines laid to destroy submarines on the surface may be too deep at high water to touch these relatively shallow draught craft. Some means of overcoming this defect may yet be found, but it was not discovered during the war.
- (2) For mining against submerged submarines, a very large number of simple contact mines is required to make an area dangerous ; but the system employed in the American mine just referred to is sound in principle and lends itself to development so that the creation of an effective and economical mine barrage should become a relatively simple matter.

But it must be realised that mines cannot be universally employed as an anti-submarine measure, partly because of tactical difficulties in placing them, and partly because sea conditions, such as great depths of water, may prevent their use ; but the scope of their employment during the war is capable of very considerable expansion as to depth of water, economy of material and other defects of that period.

We can, therefore, conclude that within its own sphere of utility, the mine may be developed into a better anti-submarine weapon than it was during the war, while there seems little possibility of the submarine finding any better means of protection from it.

NETS.

Mined nets accounted for a few submarines during the war, but as a destructive measure it is doubtful if nets of any kind are worth the amount of personnel and material they engage. Light nets to entangle the submarine were considered to have failed in 1915, and it is probable

that a modern submarine could cut through stout nets. For harbour defence, watched nets should still prove an efficient deterrent.

MOBILE ANTI-SUBMARINE WEAPONS.

Ability to attack submarines by *ramming* or *gunfire* may be regarded as normal attributes of most warships, and no special designs are necessary for anti-submarine warfare. Both forms of attack are, however, dependent on opportunism; to employ them and to avoid them need powers of rapid decision coupled with good manœuvring qualities in the vessel. Surface ships are no more handy to-day than ten years ago, but the modern submarine has improved her ability to dive quickly. She would probably escape in most of the eighteen cases in which ramming proved successful against her predecessors. For the same reason she might stand a better chance with the gun (not including the use of guns by decoys) for in the majority of the thirteen cases of sinking by gun-fire the submarine was trying to escape by diving. But the ruling factor in both these cases is the human one; a sharp look-out in the submarine is essential and no amount of improvement in design will help an ill-trained crew.

The *Torpedo* was employed successfully against enemy submarines by British submarines, but no opportunity arose for other vessels to use it for this purpose, nor is it likely to occur in the future.

Decoy Ships were successful so long as they continued to effect surprise. Their future use will depend mainly on that factor and not upon any technical improvements in the vessels themselves.

Depth Charges and *Explosive Sweeps* are the only weapons that can be carried by vessels to attack submerged submarines; for aircraft the depth charge is the sole weapon for this purpose. In the late war depth charges accounted for thirty-five and explosive sweeps for five enemy submarines.

The submarine has no possible counter to these weapons other than to keep out of the way of vessels that may be carrying them. Improvements in design have given the submarine better vision above water, better hearing when below and quicker diving powers. These improvements, of course, help her in manœuvring to avoid attack but, when within range, she is probably as vulnerable as her predecessor.

Generally speaking, the submarine fears the depth charge more than the sweep. The latter must be towed at a higher speed than that of the submerged submarine, so that its use is confined to high speed vessels. Its chances of success are always remote and it is doubtful if any development will increase its power of attack though its chances of success might be enhanced if it worked in conjunction with an

effective detecting device. The depth charge, on the other hand, can be used from any vessel, even one of low speed, as it can merely be dropped into the water or fired up to a range of 80 yards from a simple howitzer.

The depth charge is sometimes criticised because of its uncertainty of aim; and it is pointed out that its target is invisible. That is, of course, true, but in the case of gunnery and torpedo fire with visible targets the proportion of hits to misses is not high, even with the most scientific control and sighting systems. In the case of the depth charge even a miss is not wasted as its explosion is likely to have an appreciable moral effect even at considerable range. The obvious lines on which to develop the depth charge attack is to find a means of detecting a submerged submarine while cruising at speed. Scientifically this is possible. Even without this refinement the depth charge was proved in the war to be a formidable anti-submarine weapon.

In short, the balance between the submarine and these two weapons remains the same, but with increased danger to the submarine due to the development of a good detector and thereby a tendency for submarine attacks on war vessels to become more difficult.

AIRCRAFT *versus* SUBMARINES.

Air attacks during the war accounted for seven enemy submarines by bombing before they could submerge, and aircraft were instrumental, by indicating the position of submerged submarines to surface craft, in the destruction of four more. Since then aircraft have improved very greatly in endurance and manœuvring power, they are better armed with depth charges and bombs, they have more accurate means of sighting their shots, and their communications with surface craft for reporting a submarine's presence or for calling up assistance are much improved. Increased handiness is the submarine's only off-set and there is no doubt that aircraft are a greater menace to underwater craft now than ever before.

CONCLUSIONS.

Favourable to Submarines.

(a) The submarine is still a menace to other warships and to merchant ships and imposes serious restrictions on their movements.

(b) For reconnaissance she is better equipped than before, by reason of her greater range, endurance, surface speed and means of communication with her main fleet, while her risks while so employed are less. It is possible that the development of carrying an aeroplane may still further enhance her value as a scout.

(c) As a minelayer her improved qualities have rendered her task easier and with the improved mines that the future offers her scope may be slightly widened.

(d) As a commerce destroyer her possibilities have improved and it will be necessary to have more powerful and far-reaching counter-measures than was the case at the end of the war.

Unfavourable to Submarines.

(e) The protection of big warships against torpedo attack has improved.

(f) Anti-submarine weapons in the fleet, with the help of detectors, are at least as effective as before. Greater success with depth charges or explosive sweeps is largely dependent on the efficiency of these detectors, and given good detection, depth charges can prove more effective than any previous weapon.

(g) Mines, where they can be used, should be more effective than before, since development can permit of a wider scope and more economical use.

(h) Aircraft with depth charges are a new menace for they were hardly tested during the war.

In short, recent developments have not endowed the submarine with any markedly greater powers, nor have they produced any sure antidote. The menace of the submarine remains; to commerce that menace is, perhaps, more formidable than it was at the end of the late war, owing to the increased radius of action of underwater craft; but it is probably no greater than it was in the early summer of 1918.

For every means of attack a measure of defence is always forthcoming, given the time. The submarine is no longer a new means of attack, for there has been ample time for defensive measures to be developed to keep abreast post-war improvements in construction; but the practical test of another war alone can show conclusively whether submarines or their antidotes are now in the ascendant.

RETROSPECT AND SUGGESTION

(1914 - 1918)

By MAJOR F. T. V. DUNNE (ret.), late The Royal Scots Fusiliers.

IT is now so long since the writer's military demise took place that the time is fast approaching when he will have been out of the Army for as many years as he was in it. This is precisely the reason which emboldens him to put pen to paper at a time when memory is still clear enough to permit of the recall of certain facts and conditions of affairs, experienced or observed, but when the passage of time has been sufficient for things to be viewed in their proper perspective, while interest in military affairs has of necessity become impersonal and detached.

"When a nation is without establishments and a military system, it is very difficult to organize an army." (Napoleon.)

It is easy to forget that the Regular Officer of even junior rank is always a potential teacher of the new officers of an expanded army. It is a striking fact that in the case of the Regular Officer several years of more or less continuous training, both theoretical and practical, will, more likely than not, in a severe war, bear first-fruits for a few days only, or at the most for some weeks. How many regimental officers were there who, going to France in August and September, 1914, had not become casualties by mid-November of that year? But until he is fit for active service again, there are few more valuable and responsible tasks on which the professional officer can be employed than that of training the officers for new or expanded corps. Here, indeed, may the peacetime training of the Regular Officer, polished by his experience of active service, bear fruit time and time again. It is not, however, everyone who has a natural gift for teaching. To some people the delivery of a lecture, whatever the audience, is a task of real difficulty; and many highly efficient officers are not naturally adept at imparting knowledge to others. Still people may be trained to teach just as they may be trained to do most things; and it would seem that some of the officer's time on duty in barracks which, as Major Milling¹ points out, is, from the officer's

¹ Major J. M. Milling, M.C., "The Training of the Army Officer," p. 518, JOURNAL, R.U.S.I., August, 1928.

point of view, so largely unprofitably employed, might well be utilized in acquiring the art of teaching. This art, speaking of the Regular Officer as a potential teacher of new officers who have come straight from civil life, does not by any means consist mainly of the power of eloquence (though this has its value), but has as its chief requirement the capability of drawing up a scheme of instruction which will, in the strictly limited time likely to be available, give the new officer the best possible grounding for the subsequent exercise of his functions. It demands, therefore, the power of discriminating correctly between the essential and the non-essential, some certainty in emphasis and in omission; and to do these things satisfactorily it is necessary, in view of the shortness of the time available for instruction and the complete inexperience of the pupils, to exercise a degree of forethought and imagination greatly in excess of that required in normal peace-time instruction. If, therefore, part of the ordinary training of officers were to be directed towards this end, and if the names of those proficient in this art were noted, valuable time would be saved on the emergency arising, while the value of the instruction might reasonably be expected to attain some 90 per cent. of the possible maximum instead of only some 60 to 70 per cent. thereof, as will always happen where the instructor has to begin by teaching himself to instruct, to the detriment of his task.

Again, it is important in time of war that officers who are engaged on instructional work at home should be kept systematically informed of all changes and modifications in tactics, training methods, organization, etc., which experience at the front shows to be necessary as the war continues. For this purpose a special and quite small staff could advantageously be maintained at the front, whose sole duty would be to collect and collate, under the General Staff, information of the above nature for subsequent dissemination amongst instructors and amongst Commanding Officers of new or reserve units at home. The personnel of such a staff might well consist of selected Reserve Officers not physically fit for active service in the full sense.

Further, one of the greatest difficulties presented to the instructor of a group of officers commissioned straight from civil life is the almost total ignorance on the part of his pupils of the simplest military terms together with their inability to visualize warlike conditions. The man who has, for example, rarely, if ever, seen a column on the march, who has never witnessed an attack exercise, a night operation, or, in these days, tanks in action, is greatly handicapped in the correct assimilation of instruction necessarily compressed. Could not, therefore, a system be adopted whereby the first selection—outside certain categories—of

officers for new or expanded units is made from amongst those serving in or who had fairly recently served in the ranks of the Territorial Army? Such men would at least be conversant with most military terms and they would, from actual training experience, be able to visualize military operations in a way impossible to the pure civilian. It should not be difficult to maintain at convenient centres, lists of the names of those considered suitable and ready to undertake training as officers on the outbreak of a war. Would not the existence of such a system be of value to the Territorial Army itself? Would it not enhance its prestige? Would it not represent a definite acknowledgment of the value of the services of those who patriotically bear something of the heat and burden of the peace-time day?

Now, Sir Edmund Ironside, in his lecture,¹ drew attention to the fact that existing staff officers must go up one or two steps very quickly on mobilization, and that, on expansion of the Army, officers have to be trained as staff officers for the new formations. Here, again, the time factor comes in. There must have been many officers in the last war who were appointed to the Staff without having had any previous staff training. This was inevitable. Sir Edmund Ironside also touched upon certain drawbacks in the present method of admission to the Staff College—namely the mentally exhausting nature of the competition and the fallibility of the nomination method. So, reverting again to Major Milling's contention that the regimental officer's time is not employed throughout the year to the best advantage, would it not be possible as well as desirable to establish in Commands, or centrally, staff courses of, say, some four months' duration, which every regimental officer would, after attaining a certain number of years service, be in his turn *detailed* to attend—much in the same way that all cavalry and infantry officers used to be required to pass in due course through the School of Musketry? These courses (and staff courses were initiated during the last war) would aim at giving officers that grounding in staff work which on mobilization, and subsequently, would ensure there being in existence a large number of officers with some clear knowledge of staff work available to fill staff appointments in mobilization formations or new formations, or able to benefit readily from any further staff training that time and circumstance might allow of their receiving. "Refresher" courses could be held from time to time to keep officers abreast of the latest developments, and "refresher" exercises could be held fairly often in Commands and Formations.

It is further suggested that these courses might well be the source from which candidates for the Staff College proper would be drawn,

¹ Major-General Sir W. E. Ironside, K.C.B., C.M.G., D.S.O. "The Modern Staff Officer," p. 435, R.U.S.I. JOURNAL, August, 1928.

officers being selected on the results of their work at the staff course for eventual admission to the Staff College, either direct, or after passing some additional general *qualifying* examination or tests, were this considered desirable. Such a system of admission to the Staff College would have the following advantages :—

It would give an equal chance to all to prove fitness for staff training apart from any particular talent or adaptability that an officer may have for examinations. It would do away with a drawback which the present system of severe competitive examination is apt to produce—namely a certain awareness of the existence of a profession (staff) within a profession (army). It would eliminate the fallible nomination system. It would make for increased sympathy between the regimental officer and the staff officer, every regimental officer of some service having had some staff training.

"The causes of friction in an army cannot be altogether obviated, but it is possible for a good staff to minimise them, and staff officers must constantly endeavour to do so." (Staff Manual, 1912.)

The matter of sympathy between staff and regimental officer was mentioned by Sir Edmund Ironside and brought up in the subsequent discussion. That the one or the other category of officer is generally the more responsible for any absence of such sympathy it is difficult to say. Probably actions or words of a staff officer tending to produce a lack of sympathy have, on account of his more unique position, wider repercussions than in the case of a regimental officer. But the quotation given above might well be broadened by the omission of the words "for a good staff" and the substitution of the word "all" for "staff" before the word "officers." *Esprit d'armée* can and should flourish by the side of *esprit de corps*; but the former is the rarer plant and needs more constant attention. This question of sympathy is no new one. Napier, writing of a truly unfortunate incident in the Peninsula Campaign, speaks of "the presumptuous folly of a young staff-officer"—strong words these, however great the warrant. The "There, my lord, is your enemy, there are your guns!" type of individual will always exist as will also the disgruntled type, "the man agin the government," whether civilians or soldiers, though their capacity for harm is probably greater in the Services than in most civilian occupations. Any display of their special characteristics, therefore, cannot be too strongly discouraged—always and everywhere. In considering this question of sympathy between staff and regimental officer it is necessary to remember that in human relations and emotions it is the little things that count.

In conclusion, a few examples of the sort of thing which creates a breach between staff and troops may be mentioned, together with a few principles, contravention of which has the same effect.

A Divisional Headquarters issued an order that certain excellent tests were to be carried out by companies of infantry. But the tests were to be carried out on the direct order of staff officers to companies (not merely in the presence of staff officers), the chain of responsibility and command being thus broken in several places with the implication that none of the intermediate commanders were themselves fit to carry out the tests. A definite feeling of estrangement between troops and staff was caused and the very real value of the tests thus discounted.

A young officer mentioned, in the course of a conversation, a remark which he had heard made by a senior regimental officer to a staff officer. The remark was a venomous one and, making every allowance for the circumstances of the moment, inexcusable. But the striking fact was the satisfaction with which this lad, whose experience of soldiering, though intense, was neither wide nor long, related the incident. Here was an example of the mischief which intolerance on the part of a regimental officer vis-à-vis the staff can work.

A Divisional Commander had cause to complain of slackness in his Division as regards his receiving the proper compliments from troops he passed in his motor, although his flag was displayed on the car. Steps were taken in units to remedy this state of affairs. Not long afterwards, a battalion, which had had a rough passage in a large offensive operation, and had not enjoyed as long a rest subsequently as it had hoped for, was on the march towards the front again. As the column was toiling up a long hill in a downpour of autumnal rain, a closed motor displaying a General Officer's flag was seen approaching from the opposite direction. Companies immediately "marched at attention," and on the close approach of the car the usual compliments were paid. But as the vehicle passed, with an individual in uniform lounging at the wheel, its sole other occupant could be clearly discerned gazing pleasantly at the troops. It was a young clergyman. The troops would have been justified in commenting unfavourably on the moral of the headquarters to which that car belonged. The actual comments were less refined.

A staff officer need rarely be afraid to admit a bona-fide error on his part, given, of course, the existence of the right spirit amongst the regimental officers with whom he has to deal. These know perfectly well that he is not infallible, and their appreciation of the fact that he himself does not hold an opinion to the contrary will enhance their respect for and confidence in him. Further, the realization of error can often be of value as a means of imparting knowledge and instruction.

It often happened that individual reinforcement officers on arrival in France were posted from the base to regiments other than their own (whole drafts were sometimes similarly treated). This was apt to have a depressing effect at the outset on those temporary officers, who, during their training at home, had had the value of *esprit de corps* strongly inculcated in them. Such postings were, of course, sometimes necessary, but this was not by any means the rule, and an impression consequently arose that an actual perversity existed in the matter; certainly there was evidence of some degree of administrative nonchalance, and if in future it be considered that the regimental spirit of the British Army is worth sustaining, there should undoubtedly be more, say, whole-hearted work in this particular connection. Perhaps the real solution lies in the maintenance of a closer liaison between the seat of war and the recruiting and commissioning authorities at home. A man joining a national army straight from civil life may have a preference for a particular regiment; but he will soon become imbued with the spirit of whatever regiment he is first sent to, whose uniform he wears, and in which he does his training. It is the subsequent breaking of this spirit which is to be avoided as far as possible.

It is desirable that the prestige of the officer and his own sense of duty should always be upheld. This should particularly be remembered at base camps and depots where the wearer of one star should not be confused in the military sense with the wearer of one stripe. Officers who fail to respond can always easily be dealt with individually. *Esprit de corps d'officiers* is an asset to an army.

The first duty of the permanent staffs of reinforcement camps and depots is the maintenance at the highest possible level of the *élan* of all reinforcement personnel temporarily under their control; all their other activities are secondary. This was not always realized at all of these places, which might be called, not impolitely, military caravanserais, and where in some cases it was apparent that a sort of Frankenstein monster had been called into being.

It is a matter of some importance that in a temporary national army the functioning of provost personnel, commissioned or otherwise, should be directed solely to the maintenance of what is clearly, beyond all doubt, essential to good order and military discipline. This does not in any way mean that the provost personnel should be supine. All regulations as to deportment and, making due allowance for climatic conditions, dress, should be Army regulation and not the particular regulations of various Commands, Districts, etc.

Amongst the trains which conveyed officers travelling between London and Folkestone, en route to and from France, was one which

was limited to officers of certain rank and over, also to staff officers. This train had advantages of convenience and comfort as compared with other military trains. Now although in the British Army rank has always been apt to be less rational and in some respects cheaper than in the principal continental armies, its anomalies have been generally understood and accepted—largely as the price, be it said, of the maintenance of the regimental system and of the attaching values. But it was quite impossible to give to a regimental captain on leave from the front any unassailable and convincing reason why he should be excluded from this train whilst a captain on the staff, similarly situated, should be privileged to travel by it. Staff officers at the seat of war have, automatically, many privileges of comfort which regimental officers cannot have, and it would be short-sighted and churlish for the latter to grudge this. But that is all the more reason why when off duty, so to speak, no differentiation should be made between staff officers, as such, and regimental officers. To name this train "The Staff Train" was, at the best, a profound psychological error.

THE NAVAL EXERCISES IN THE MEDITERRANEAN

MARCH 18th - 25th, 1929

By COMMANDER TAPRELL DORLING, D.S.O., R.N.

THE usual spring exercises between the Mediterranean and Atlantic Fleets took place this year in the western portion of the Mediterranean to the southward of the Balearic Islands and the westward of Sardinia. They were divided into two main phases, the first consisting of a strategical exercise starting at 1 minute past midnight on 18th March and terminating at 9.50 p.m. on the same date, and the second, of a series of battle and tactical exercises beginning on 23rd March and ending at about noon on the 25th. From the 19th until the morning of the 23rd, the combined Fleets were anchored in Pollensa Bay, Majorca.

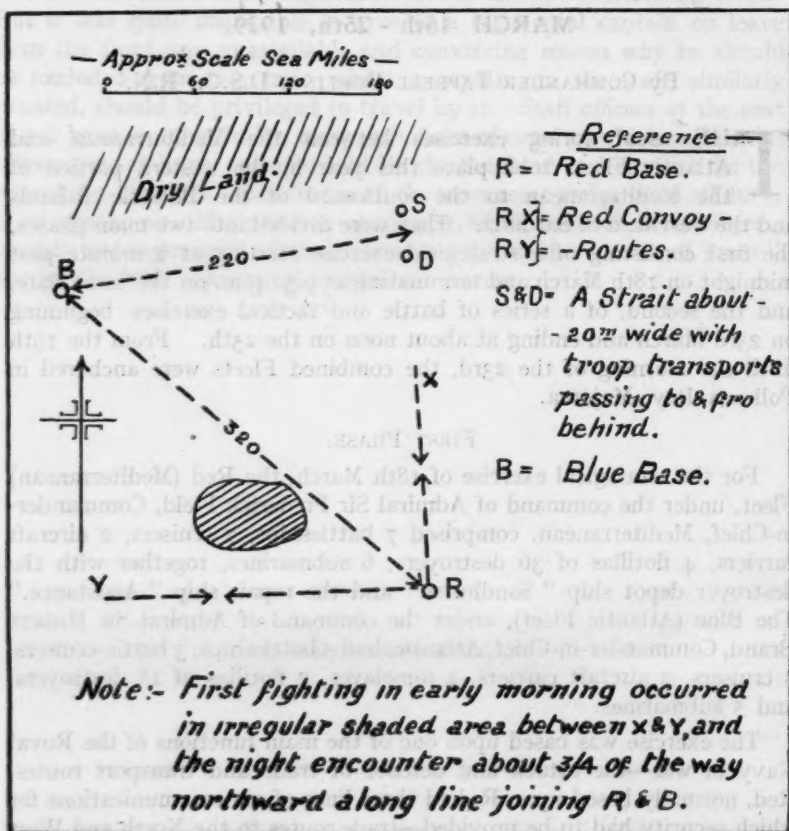
FIRST PHASE.

For the strategical exercise of 18th March, the Red (Mediterranean) Fleet, under the command of Admiral Sir Frederick Field, Commander-in-Chief, Mediterranean, comprised 7 battleships, 7 cruisers, 2 aircraft carriers, 4 flotillas of 36 destroyers, 6 submarines, together with the destroyer depot ship "Sandhurst" and the repair ship "Assistance." The Blue (Atlantic Fleet), under the command of Admiral Sir Hubert Brand, Commander-in-Chief, Atlantic, had 5 battleships, 3 battle-cruisers, 5 cruisers, 2 aircraft carriers, 1 minelayer, 2 flotillas of 18 destroyers, and 5 submarines.

The exercise was based upon one of the main functions of the Royal Navy in war—the attack and defence of trade and transport routes. Red, normally based upon R, had three lines of sea communications for which security had to be provided—trade routes to the North and West along the lines RX and RY, and a stream of transports passing to and fro behind the points S and D, supposed to mark the confines of a narrow strait. The area to the northward of BS represented dry land.

Blue, from his base at B, had the task of interrupting Red's communications, all of which were more or less vital and necessary, and therefore had to be protected. This protection entailed a certain amount of dispersion which temporarily lessened Red's superiority.

To add to the realism of the exercises and to conceal the intentions and movements of each fleet from the other, certain alternative orders and instructions were drawn up for the guidance of the Commanders-in-Chief. These were drawn haphazard just before the exercise started. For instance, Red, unknown to Blue, might be directed to pay special attention to the guarding of any one of his three lines of communications,



while his covering force actually at sea when the exercise started might consist of battleships, or battleships representing battle-cruisers with a slight increase in speed. The time at which the remainder of the Red Fleet might sail from its base at R was also uncertain within a few hours. Blue, in the same way, and unknown to Red, might be told to raid any particular one of his opponent's lines of communication, and

that he was to indulge either in a mere tip-and-run raid, or to fight a fleet action regardless of consequences.

This element of chance and uncertainty was a novel feature which undoubtedly added to the interest of the exercise and brought about a series of unexpected situations, not dissimilar to those of actual war where precise knowledge of hostile movements is not forthcoming.

At 6 p.m., on 17th March, two Red convoys, each supposed to consist of ten merchantmen, escorted by destroyers, sailed North and West from R. One was represented by the "Assistance," and the other by the "Sandhurst." At much the same time a Red covering force left its base and steered a north-westerly course. This force—by the luck of the draw—consisted of three battle-cruisers (represented by battleships), the cruisers "Frobisher" and "Danae," the flotilla-leaders "Keppel" and "Douglas," and the aircraft carrier "Courageous."

The Fourth Destroyer Flotilla, from the leader of which, the "Broke," the present writer witnessed the exercise, was already guarding the stretch of water between the points S and D, while from a spot about two-thirds of the way North between R and D, the Rear-Admiral Commanding Mediterranean Fleet destroyers, with two flotillas, was ready to start a broad-fronted sweep to the westward with the object of locating any enemy forces that should come North.

At 1 a.m., on the 18th the Red Fleet sailed from its base on a north-westerly course, and the destroyer searching force, further to the northward, started its sweep.

Soon after daylight, at 5.52 a.m. to be precise, the "Keppel," one of the Red covering force, sighted four hostile destroyers steering south-east towards our west-going convoy. Within a quarter of an hour she sighted a Blue aircraft-carrier, and soon afterwards a Blue cruiser. It became evident that Blue was attacking our convoy moving westward along RY, and the Red Commander-in-Chief immediately ordered both convoys to return to their base.

Between 6.15 and 7.30 a.m., more enemy cruisers, and then his battle-cruisers, were sighted in the same neighbourhood by the lookouts attached to the Red covering force. Our aircraft had been busy since dawn, and before long they were reporting the Blue battlefleet steering south-east. Soon afterwards it was sighted by the covering force. At 8 o'clock "Keppel" (Red), which had provided invaluable information of the enemy's movements since dawn, was engaged by superior forces and "sunk."

Blue was now definitely located and his intentions sufficiently known, and at 8 o'clock the Rear-Admiral commanding Red destroyers was

ordered to discontinue his sweep, to concentrate his vessels and to steer a southerly course to join the Red main fleet. The "Broke," also, was ordered to collect her eight destroyers and to steer south-west with the idea of getting between the enemy and his base and attacking with torpedoes after dark.

As we steamed off on our errand it was difficult altogether to visualize what was going on far out of sight to the northward. Intercepted signals, however, told us of considerable sporadic fighting between the light forces, in the course of which the "Danae" (Red), was put out of action. There was intense aerial activity on both sides. Reconnaissance machines were busy, and massed torpedo attacks from the air, as well as machine gun attacks upon bridges and men in exposed positions, apparently went on without ceasing.

By 11.30 a.m. the Blue battleships and battle-cruisers were concentrating and steering northward in company, with the Red main fleet about thirty miles to the eastward. Within two hours, however, Blue had definitely altered course back for his base at his best speed with Red out of sight astern but following. Red aircraft were ordered to keep touch. I was not aware until later that Blue's speed had been reduced through the aerial torpedo attacks, and that Red, therefore, had a considerable superiority.

Nothing of much importance took place during the afternoon, though the "Douglas," like the "Keppel," did excellent service in shadowing and reporting.

By 8 o'clock it was dark with the moon in the zenith. It was about now that we in the "Broke" were approaching the enemy battlefleet to deliver an attack, and from 8.50 until 9.50, when the exercise was finally "negatived," the night was a confused medley of searchlights and star-shell bursting overhead in their scores, with their globes of brilliant light descending slowly to the sea, leaving behind them their trails of smoke clear-cut against the radiant background. The two battle-fleets, we afterwards discovered, came into action at close range, and of the results of that action, and of the result of our attack, I cannot venture an opinion. At any rate, had it been the real thing, it must have been a bloody business. Even so, with star-shell whistling overhead in coveys, and bursting to turn night into continuous day, it was the most spectacular display I have ever seen except during war.

It is unnecessary here to describe the time spent in Pollensa Bay; but on 23rd March we were again at sea, and that morning the battleships of the combined Mediterranean and Atlantic Fleets carried out massed manœuvres. The same afternoon there was an exercise between the combined fleets and a skeleton force represented by the "Hood,"

"Repulse," "Adventure," "Centaur," a few destroyers, and the three aircraft carriers, "Courageous," "Eagle" and "Furious." The principal ideas were the manœuvring of twelve heavy ships in battle formation on the one side, and the carrying out of intensive aerial reconnaissance and attacks on the other. It was certainly spectacular to watch, for over 100 machines were used and at one time I counted as many as thirty-five in one small patch of sky.

SECOND PHASE.

Sunday, 24th March, was a *dies non* for exercises, but by 6 o'clock the next morning, Monday, the Red (Mediterranean) Fleet was about 240 miles eastward of Gibraltar, with the Blue (Atlantic) Fleet, about 120 miles to the West. Submarines were stationed between the fleets to attack during the approach. To heighten the realism and to make rapid decisions necessary, both forces used speeds during the exercise approximating to within a knot or two of their actual full speeds.

It was a blowing day with a strong easterly breeze and a tumbling, breaking sea, uncomfortable for destroyers, though not heavy enough to prevent the aircraft carriers from flying off and flying on their machines. Aircraft were busy on both sides from the time the exercise started, and we were soon hearing their "enemy reports." Passing through a cordon of submarines the Red Fleet steamed on to engage, and by 11 o'clock the "Nelson" and her consorts were in sight on our starboard bow. Destroyer attacks were launched on both sides, and the usual "dog-fights" between opposing torpedo-craft took place between the lines as the fleets neared each other. What with smoke-screens, and destroyers racing along at 27 knots with spray flying over their bows and green seas breaking over their decks, it was interesting and spectacular enough. Aircraft were also hard at it on both sides; but as to the results of the battle, which terminated shortly before noon, the umpires alone can express an opinion. As is the case in all peace exercises of this nature, the tracks of all ships have to be plotted on paper, the value of their gun and torpedo fire ascertained and probable casualties assessed, before it can be hoped to discover which side came off best. The exercises over, the ships joined their respective squadron commanders and arrived at Gibraltar on the morning of 26th March.

The spring exercises, as usual, provided an opportunity for Flag and senior officers to handle large bodies of ships in conditions approximating as nearly as may be to those of actual war, particularly at night, without lights. The staffs of both fleets also met to discuss the many points which had arisen out of last year's training, with the idea of reaching agreement as to the lines along which progress must be sought

in the future. Apart from this, officers and men were given a taste of war routine, and had chances of seeing each other and taking part in the competitive events. There is always the keenest and most friendly rivalry between the Mediterranean and Atlantic Fleets, and that this happy liaison should be constantly maintained is of the greatest importance.

Undoubtedly the most spectacular part of the exercises, and that likely most to impress non-naval observers who witnessed them, was the work of the aircraft. But here I must sound a note of caution. The exercises certainly showed the great utility of the Fleet Air Arm: the long distance reports of the enemy, the torpedo, bombing, and machine gun attacks upon heavy ships. And it is fascinating and thrilling to watch aircraft diving steeply down from the sky at incredible speed to drop their torpedoes, or to "shoot up" with machine-guns the exposed personnel on bridges and fire-control positions.

But in manœuvres lasting only a few days, and generally carried out in fine weather, one is apt to gather wrong impressions. Aircraft are fallible. Even moderately bad weather may prevent a carrier from flying off or on her machines, while aerial torpedo and other attacks carried out in peace conditions—without gunfire, without aerial opposition—bear little resemblance to the real thing.

Far be it from me to underrate the value of aircraft at sea, or to depreciate the gallantry and daring of those who fly in them. As adjuncts to the work of a fleet in war they will be invaluable. But they have their limitations, and to say that aerial attacks can drive heavy ships off the face of the ocean, or that aeroplanes can be relied upon to do the reconnaissance work of cruisers in all conditions of weather, is as absurd as it is dangerous.

ARMS AND THE MAP

By LIEUTENANT-COLONEL M. N. MACLEOD, D.S.O., M.C., R.E.

"So David prevailed over the Philistine with a sling and with a stone and smote the Philistine and slew him; but there was no sword in the hand of David." (I Sam. xvii, 50).

THESE are difficult days for the British officer; on the one hand there are the official text-books still depicting a stage on which the foot-soldier, flourishing a bayonet, plays the lead; and on the other, a growing volume of semi-official literature in which the prophets recommend the abandonment of all the older arms, with most of the older ideas, in favour of tanks, aeroplanes, or poison gas.

In the discussion of this matter it has been fashionable lately to find precedents in the battles of bygone days and it may not be amiss therefore to draw a moral from the most celebrated of these old encounters,—the fight between David and the Philistine.

In this battle David introduced the missile into warfare and showed that the best way to overcome one's adversary is not to rush at him with sword or spear, nor yet to cover oneself all over with armour (did not Goliath's coat of mail weigh 5,000 shekels of brass), but to lay him out with a well-aimed bullet from a respectable distance. Nevertheless to-day, though we have improved considerably on the missile used by David, we seem to have fallen behind him in tactics for we are still exhorted to rush at our enemies with the modern equivalents of sword and spear, even though this procedure has been found exceedingly expensive in men and singularly barren of results. It was of course the failure of this style of attack which led to the invention of the tank; but no one appears to have seen in it any reason to call in question the underlying principle; the tank-borne warrior, though he does not propose to use cold steel, still expresses his determination to rush at his enemy and deal with him at point-blank range. Even those who are most emphatic that the day of the *arme blanche* is over and that the missile now rules the battlefield, generally persist as obstinately as anyone else in their belief in close-quarter action. They do not seem to have stopped to inquire into the precise reasons why cold steel should suddenly have lost its virtue.

Yet these reasons are worth looking into ; they began when David showed that with a missile a soldier could deliver a fatal blow without taking the chance of receiving one ; they became important when the breech-loading rifle added to the range of the blow and the probability of a hit ; they became decisive when the machine-gun, without seriously increasing exposure, made hitting a certainty.

This delivery of blows without exposure is the essence of missile fighting and is the true source of modern defensive power. It is because the defender can now rely on the missile, and can therefore keep hidden, that he has established such superiority over his assailants, since they, in attempting to engage him with hand weapons—or at any rate at close quarters—have always been compelled to expose themselves. Neither does the employment of tanks or any other kind of vehicle affect the principle here involved. Indeed, it will be generally agreed that encasing the attack in armour, by increasing both the conspicuousness of the attacker and the difficulty of seeing the defender, accentuates these disabilities of the assailant.

The exponents of tank warfare have hitherto ignored this principle altogether and have apparently pinned their faith on the ability of the armour carried to keep out enough of the missiles which hit them to neutralize these disadvantages. Then on this foundation some of them have built up an elaborate edifice which seems to have caught the eye of authority but which will nevertheless come down with a run if the underlying assumption is unjustified. It seems that in the general enthusiasm for mechanized or armour-plated novelties there is a danger of forgetting that the type of warfare advocated by these enthusiasts definitely contravenes the proved principles of missile fighting, and that it depends on a property of armour which cannot be tested in peace, because no one can predict exactly what sort of missiles it will have to keep out.

If it fails, it will land the attack in the same unfortunate plight as that of the German infantry at Mons or Ypres in 1914, and it is useful therefore to be reminded that there is another method of fighting, at present rather neglected, which does conform to these principles and which, unlike the other, has been tried in war, up to a point, with marked success. In this method, the attackers also, instead of rushing out into the open regardless of the consequences, endeavour to deliver their blows from behind cover. Being under the necessity of movement they cannot naturally avail themselves of the same sort of cover as the defence. They must operate differently and instead of relying on direct fire and artificial protection, must base their attack on indirect fire from behind natural cover, at least until the enemy is forced

to come out into the open and can be engaged with direct fire on equal terms. To attack with success in this way is not impossible; it has indeed already been done on many occasions, for the great attacks of 1918, built up round a "predicted" artillery barrage, were based on this principle; and the almost uniform success of attacks of this type makes a very significant contrast with the almost uniform failure of those based on the old close-quarter hand-to-hand idea.

Admitting that the attacks of 1918 were delivered under static conditions, which no one wants to see repeated, it has perhaps been assumed a little too readily that it is impossible to adapt the methods of 1918 to more mobile warfare.

To enable this sort of attack to be used at any time, only three things are necessary:—

- (1) The long-range arms must be able to hit any target without delays on account of ranging or observation;
- (2) There must be a precise indication of target to the long-range arms.
- (3) Communication between the direction of fire and the long-range arm must be quick and sure.

In France where all these things could not be done, their place was taken by a pre-arranged programme of "predicted" artillery fire to which all other arms had to conform. This system obviated the necessity of pointing out targets and saved communications, but resulted in a very rigid style of attack unsuited to any but very deliberate warfare.

Since the war there has been substantial improvement both in methods of communication and in the ability to hit targets without ranging or observation and the only serious obstacle which now remains to increasing the flexibility of this kind of attack is the difficulty of locating targets with sufficient accuracy. The only machinery the Army now possesses for this purpose in the Survey Company, R.A. is cumbersome and ill-adapted to mobile war; the system, also depending on instrumental observation and "trigonometrical" points, is intrinsically too slow for really mobile conditions. In deliberate operations it may work well, but even then it is open to several objections the chief of which is that, since survey instruments cannot be used in an aeroplane, aerial observers cannot be used for target fixing and no use can be made of one of the most valuable attributes of the aerial arm.

Instrumental methods of target location must be supplemented by something which can be put into operation without any delay and can be used by all troops. Such a thing is to be found in the provision of suitable maps. In any country in which topographical features are

numerous (and it is just in this sort of country that instrumental methods are most difficult) "pin-pointing" of targets can be done on a detailed and accurate large scale map by any intelligent man after a very little training and practice.

The word "suitable" means here that the map must be of a certain minimum scale which may be arrived at in the following way.

The maximum error which can be allowed in "predicted" shooting may be put at 20 yards; if the first shells fall further than this from the target some searching and sweeping is necessary and the effect of the fire is no longer immediate. If the target has been located on a map the size of the map must be such that, at least, the error made in measuring its co-ordinates does not exceed this amount. As this error, even with all reasonable care, may be as much as $1/40$ inch, the *minimum* scale of the map works out at $1/40 = 20$ yards or 1/28,800, a figure which should be compared with the 1/20,000 used in France and the 1/50,000 to 1/100,000 recently laid down as "standard" by the General Staff.

To understand why there has been no demand for the larger scale it is probably necessary to look back at pre-war ideas which in certain respects still seem to influence our present map policy.

Before the war it was the universal practice to prepare all the maps for a campaign at or before its commencement. Stocks of maps for the whole theatre of operations were sent out with an expedition as part of its equipment and renewed from home when required. If these maps were bad or inaccurate, as they frequently were, the troops had to make the best of them they could. In such cases although the opportunity was often taken of making surveys during the course of the campaign, these surveys were seldom if ever published for immediate use. As no means existed of mapping areas held by the enemy there was indeed little object in doing so. Such a policy compelled the use of small scale maps made up from such material as could be collected in peace; it rendered quite impossible the development of tactical methods, such as those referred to here, which depend directly on the nature and quality of the map.

The development of aerial photography since the Great War has now made it possible to consider the production of maps on virtually any scale of any areas over which aeroplanes can fly. This is a new scientific development of which full advantage is not yet being taken. It has not of course reached finality and there are still some technical difficulties to be overcome. Nevertheless, after allowing for all these difficulties it is still permissible to say that the production of large scale maps is possible in most places, and further, that in some places where no maps worthy of the name now exist (such as Afghanistan or Asia

Minor), and maps of any scale, large or small, would have to be prepared and printed during the campaign, the production of large scale maps, up to the printing stage, is just as easy as that of small.

After the printing stage the production of the larger scale is only more difficult because a "3 inch" map requires nine times as many sheets of paper to cover a given area as does a "1 inch." As it would hardly be practicable, and certainly not economical, to print off supplies of large-scale maps for a whole campaign at its outset, arrangements must be made to print during the course of the operations. The equipment of an expeditionary force should therefore include, not the maps ready printed, but the blank paper and the means of printing them, as and when required. This printing equipment, similar to that maintained at Army Headquarters during the Great War, can be mounted in lorries or trains and made reasonably mobile. The amount of it depends on the scale adopted and on the time which can be allowed for printing.

Printing, however, is only a part of the complete process of map production and in considering the time factor the whole process must be allowed for. Here the question of accuracy comes in. Unless a good large-scale map exists before war starts, that is to say, anywhere outside the more civilized parts of Europe, accurate maps can only be produced if air photographs can be taken in a certain way, entailing long straight flights at a uniform speed and height.¹ Moreover in order to give the map-makers sufficient time to convert these photographs into a map it may be necessary to carry the photography 100 or perhaps more miles ahead of any possible movement. This is not an impossible figure, although the necessity for straight and level flying might prevent photography over areas well-organized for anti-aircraft defence. However as this type of flying is identically the same as that required for bombing and is now practised for that purpose it seems justifiable to hope that the R.A.F. would be prepared to undertake it. With an adequate organization and a concerted plan of action between the R.A.F. and the survey services ready to take advantage of the mobilization and concentration periods and of any subsequent halts in the operations, it should be quite possible to give the troops a reasonable assurance that good maps will be available in all ordinary circumstances.

The fact that there may be occasions when the preparation of suitable maps proves impossible, or that in times of prolonged and rapid movement the supply may fail, does not seem to be a good and sufficient reason for renouncing altogether methods of fighting of present and proved

¹ See "Air Photo-Surveying." By Colonel H. St. J. L. Winterbotham, C.M.G., D.S.O., p. 86, R.U.S.I. JOURNAL, February, 1929.

value which hold out prospects of further and perhaps more useful development.

If after war starts the small scale maps now legislated for should prove unsuitable, it must not be supposed that it will be possible easily to change over to a large scale system. Such a change would require a big expansion of parts of the survey organization for which no suitable reinforcement could be improvised from civilian sources. Even, however, if this difficulty could be surmounted, a still greater difficulty remains, since the larger scale is only wanted on account of changes in tactics, all the details of which would still have to be worked out and practised. It is certain that such a change could not be introduced during the course of active operations. If therefore there is any intention of making extensive use of predicted fire, either as here suggested or in any other way, there are good reasons for introducing large scale maps into our map policy forthwith.

Those who would hesitate to make this change on the grounds that future warfare may prove to be an affair of direct fire and rapid movement, like a fleet action at sea, may be reassured to know that if the change from small to large scale maps is difficult, the change in the contrary sense is easy. It may be desirable to add also, for the benefit of those who have in mind the necessity of making the little British Army more powerful in proportion to its numbers than that of any continental power, that the attainment of this object by purely material means is not only highly uncertain, but may involve us in a competition of armaments as financially onerous as that which goes on in respect to sea warfare; whereas in the style of warfare here suggested success would depend little on material and much on initiative, intelligence, and training. Hence it provides a road to the attainment of superiority which the short service conscript army will find it hard to tread.

THE FISHERY PROTECTION SERVICE

(By permission of the Naval Staff)

By PAYMASTER LIEUTENANT-COMMANDER J. HOGG, R.N.

THE fishery trade is one of the first ten industries of the country. Great Britain has a fleet of 1,500 steam trawlers, 320 first class sailing trawlers and 1,185 first class drifters. The value of the catches landed in 1927 was over seventeen million pounds.

Until 1891 most of the trawl-caught fish landed in the British Isles came from the North Sea, but in that year some adventurous skippers paid a visit to Iceland with astounding success. Other skippers naturally followed, and so the great Icelandic grounds were developed. About one third of the British trawl-caught fish now comes from that area. Trawling is now carried on from Greenland, Iceland and the Barents Sea in the North to Morocco in the South.

LEGISLATION.

The growth of the sea fisheries has necessitated a good deal of domestic and international legislation.

In Great Britain there are two controlling authorities, the Board of Agriculture and Fisheries and the Fishery Board for Scotland. Apart from regulations regarding the marking of vessels, rules with regard to lights, etc., the principal item of domestic legislation in force applies to Scotland. This is the Herring Fishery (Scotland) Act of 1889, which prohibits trawling within three miles of low water mark in any part of Scotland, except in the Solway and Pentland Firths, and also includes certain areas in the Firth of Clyde outside the three mile limit. The object of the Act is to prevent the destruction of immature fish. In 1890 the provisions of the Act were extended to apply to the whole of the Moray Firth.

An important point about this Act is that it cannot be applied to foreigners outside the three mile limit, so that British fishermen had the mortification of watching foreigners reaping a rich harvest in areas in which they themselves were forbidden to fish. To mitigate this to some extent, a foreigner who has trawled in the prohibited area is not now permitted to land a catch in Great Britain within six weeks of such trawling, but there is still some feeling among British skippers that the Act gives the foreigner an unfair advantage.

In international legislation the term "Exclusive Fishery Limits" occurs frequently; these may be defined as "the waters within three miles from low water mark along the whole extent of the coast as well as of the dependent islands and banks." As regards bays, for fishery purposes, the distance is to be measured from a straight line drawn across the bay, in the part nearest the entrance, at the first point where the width does not exceed ten miles.

The most important international regulation affecting the rights of fishermen is known as the North Sea Fisheries Convention, which was concluded in 1882 between Great Britain, Germany, Belgium, Denmark, France and the Netherlands. The chief provisions of this Convention, apart from defining the territorial waters of bays, concern the relations between trawlers and drift net fishermen to avoid damage to gear. For instance, it forbids vessels to anchor at night on grounds where drift net fishing is going on. It also defines the powers of the commanders of the fishery cruisers of the contracting powers. The provisions of this Convention have been extended to include British and Danish vessels fishing outside territorial waters in the seas surrounding the Faeroes and Iceland.

There is also a Convention, entered into by Great Britain, Germany, Belgium, Denmark and the Netherlands, forbidding the traffic in spirituous liquors amongst fishing craft of the signatory powers outside territorial waters. It also established a system for licensing vessels for the supply of provisions other than spirituous liquors. France is a notable absentee from this Convention.

It will be noted that Norway and Sweden are not signatories to the North Sea Convention. These countries claim a four-mile territorial limit, which is not recognised by the British Government. This claim has led to numerous disputes concerning the rights of British fishing craft.

DIFFICULTIES IN RUSSIAN WATERS.

In 1921, Russia revived an old claim to a twelve-mile territorial limit, which led to a great deal of trouble and also to the arrest of two British trawlers. Great Britain does not recognise this claim, and British trawler owners were informed that their trawlers proceeding to the Murman Coast would be adequately protected, provided they kept outside the three mile limit. Two fishery protection cruisers were sent to these areas to afford this protection.

Arrangements were made for the reporting to the naval authorities of all movements of trawlers to and from that coast, in order that account could be kept of their whereabouts. Endeavours were made to arrange that only trawlers fitted with W/T should be sent to this area, but owing

to lack of ships so fitted this could not be done. The trawlers operating in the area were ordered to keep within sight of the cruisers on patrol, and a system of alarm signals for use at night was evolved. Russian gunboats were frequently seen in the vicinity in the earlier days, but the fishing craft were not molested, and eventually the Russians ceased to patrol the area, and the fishing craft were left in peace. The fishery protection cruisers were, therefore, withdrawn.

A new situation arose, however, when, in 1926, Great Britain broke off diplomatic relations with Russia. The British Trawlers' Federation were informed that under the circumstances protection could not be afforded and that they must fish at their own risk. As a result Insurance Companies refused to insure vessels proceeding to the Barents Sea and British trawlers ceased to go to that area. The trawler owners accepted the situation, and no further action was taken until the spring of this year. The fact that German trawlers were landing in England fish caught in the Barents Sea grated on the British fishermen, and the British Trawlers' Federation came to the conclusion that something must be done. They, therefore, sent a deputation to the Prime Minister to state their case, with the result that it was decided that protection should be given to British trawlers in the Barents Sea.¹

VESSELS OF THE FISHERY PROTECTION SERVICES.

All the countries interested in the sea fisheries employ craft to protect their fisheries, and to preserve the integrity of their exclusive fishery limits. With one exception, these crafts are warships of the national navies. The exception is Belgium, which does not possess a national navy. She has one ship, the "Zinnia," a sloop, purchased from Britain and manned by personnel from the Belgian cross-channel services. This ship is treated, however, as if she were a warship.

The organization of the British Fishery Protection Service is as follows :—

A Captain (known as Captain, F.M.S.²) is in command. He has, as his "flagship," a sloop, H.M.S. "Harebell," and has also an office in H.M. Dockyard, Portland, to which routine correspondence is sent during his absence at sea.

¹ H.M. Sloops "Harebell" and "Godetia" arrived off the Murman coast at the end of November and since then about fifty British trawlers have been fishing in the area. No trouble was experienced until 29th December, when two trawlers, which had foolishly gone inside the three mile limit, were boarded by a Russian gunboat and ordered to Murmansk. They succeeded, however, in escaping during a snowstorm.

² Captain of Fishery Protection and Minesweeping.

There are eight Fishery Protection vessels under the orders of Captain, F.M.S., which are employed in various areas as shown below, each group being under the orders of its Senior Officer, who is known as the Local Fishery Naval Officer (L.F.N.O.).

North Sea.	Channel.	Irish Sea.	Scotland.
"Godetia."	"Dart."	"Doon."	"Spey."
"Garry."	"Colne."		
"Dee."			
"Liffey."			

There is one vessel, at present, the "Kennet," in reserve, which would be commissioned in the event of one of the above-named ships requiring extensive repairs.

The "Spey" is under the orders of the Scottish Fishery Board for operations, and is only under the orders of Captain, F.M.S., for purposes of administration and discipline. Formerly the sphere of activity of the Scottish Fishery Protection vessel was restricted to the Moray Firth in order to enforce the Act already referred to with regard to trawling in that area, but now she is employed wherever her services can be utilised to the best advantage.

DUTIES OF SEA FISHERIES OFFICERS.

The duties of Sea Fisheries Officers may be considered under several headings, of which the following are, perhaps, the most important :—

- (a) The prevention of fishing by foreigners within exclusive British fishery limits ; and the prevention, equally, of British vessels from fishing within foreign exclusive limits.

It should be noted that the various Conventions prohibit *fishing* within a foreign country's exclusive limits ; they do not prohibit freedom of navigation and anchorage, provided local regulations are complied with. But some countries (notably Iceland) have very definite regulations as to the stowage inboard of all fishing gear on entering territorial waters, and very heavy fines are inflicted for any infringement. Until about two years ago, the law in Iceland required that all fishing gear should be stowed inboard and lashed, before a foreigner entered Icelandic territorial waters, under penalty of a very heavy fine. The judge had no option to administer a caution for a purely technical offence. This law often worked very harshly as frequently, whilst fishing, an accident occurred on board a trawler, and immediate medical assistance was required. The result was that the Skipper "dropped everything," and went full speed to the nearest port to obtain the services of a doctor ; with the result that he found himself summoned to answer a charge of breaking the law concerning the stowage of gear.

As a result of diplomatic pressure and, very largely, a visit to Iceland by Captain, F.M.S., this law was relaxed to the extent of giving the judge the option of cautioning the offender in such cases.

(b) Landing and sale of fish by foreign boats in British ports.

There is nothing to prevent foreign fishing vessels landing and selling their catch in British ports, with the exception that vessels trawling in the prohibited areas in Scotland, under the Herring Fishery (Scotland) Act, are not allowed to land a catch in a British port for a period of six weeks after such trawling. British Fishery Protection vessels, therefore, report the names and dates of all craft seen trawling in these areas.

(c) Marking of fishing vessels, and exhibition of lights.

All fishing craft are bound by regulation to have their name, port of registry, and registered number painted on their hull.

The superintendence of these regulations is placed on the Commanding Officers of the Fishery Protection vessels of the nations concerned. But Commanding Officers of vessels of one nation communicate to their opposite numbers of another nation any infractions of this order by the craft of the latter nation.

(d) General Superintendence.

Under this heading come the various regulations of the North Sea Convention concerning the rights of trawlers *vis-à-vis* drifters, damage to gear, etc. In some cases, Commanding Officers of Fishery Protection vessels are authorised to adjudicate on disputes concerning damage to gear on the high seas.

(e) Powers under the Act of 1893.

This Act, as has already been stated, is to prevent the traffic in spirituous liquors amongst fishermen. As regards infringement by a foreigner, they may board him, call upon him to produce his Certificate of Registry, and endorse it. They should, after hearing anything the skipper has to say, make a full report to their Senior Officer, who will forward the documents for transmission to the Government of the country concerned.

They may arrest vessels of their own nationality for infringements of this Act.

It may be of interest to mention here that, by the Treaty of Peace with Germany, 1919, "Germany agrees that, notwithstanding any stipulation to the contrary contained in the Conventions relating to the North Sea Fisheries and liquor traffic, all rights of inspection and police shall, in the case of fishing boats of the Allied Powers, be exercised solely by ships belonging to those Powers." In other words, Germany cannot

exercise any control over the fishing-craft of the Allied Powers, except within her own exclusive fishery limits.

USE OF FORCE.

One of the most difficult questions to decide is that of the use of force to compel obedience to the orders of Fishery Protection vessels, and of the amount of force which may be used.

It may appear, at first sight, that the mere presence of a warship would be sufficient to overawe an offending fisherman, and in the majority of cases this is so ; but it must be remembered that most of the fishery gunboats are only armed trawlers, which are as slow as, or even slower than, some fishing trawlers.

In the case of a long chase, therefore, a fisherman has a very good chance of escape. Also, the fact that the fisherman knows that the gunboat will probably not fire *at* him, gives him the incentive to persist in his efforts to escape.

The position to be aimed at seems to be that of the London policeman. He manages to exert a great deal of authority in a quiet way without becoming unpopular ; in fact, he is looked on with affection by the great majority of people.

The duties of the Commanding Officer of a Fishery Protection vessel call for the exercise of much tact and forbearance. Hasty and tactless action or speech may cause a great deal of ill will, not only among British fishermen, but also between British and foreign fishermen. It may do even more, and be the cause of friction between nations.

So much for what may be termed the " aggressive " part of his duties. There is, however, another side to be considered.

There are many ways in which Fishery Protection vessels can help fishing craft. A tow in case of breakdown, communication of weather forecasts, medical assistance when required ; these and other small courtesies are all very much appreciated. The presence of a British fishery cruiser on the distant fishing grounds is always welcomed. This is particularly the case in Iceland, where, unfortunately, there is an impression that British fishermen are singled out for harsh treatment. Fishery Protection vessels are often the only men-of-war which the smaller ports of England and of foreign countries ever see. The appearance of a ship, the smartness of her crew and their bearing on shore are the standards by which the Royal Navy is judged in these little places.

There is yet another aspect in which good relations between the Royal Navy and British fishermen are of great importance. In war time,

the fishermen form a very fine and very necessary part of the auxiliary forces; and it is of the utmost importance that they receive every encouragement to join the Patrol Section of the Royal Naval Reserve. It may be partly for this reason—at any rate it is a very happy coincidence—that the Captain, F.M.S., is also in charge of the training in minesweeping of reservists. Thus the fisherman comes into touch with this authority whilst he is following his calling, and again when he comes up for training.

A great deal of good can be done by visits of fishery cruisers to foreign ports, and by meetings between the cruisers of different nationalities. A hint to a foreign cruiser that some of his fishing craft have been seen suspiciously near the limit may produce reciprocal treatment from him, instead of an arrest.

An instance occurred at Hull last year. The Danish fishery cruiser "Fylla," late H.M.S. "Asphodel," visited Hull; Captain, F.M.S., in "Harebell" was also present. At the time there was a good deal of suspicion in Hull that their trawlers were singled out for harsh treatment in Iceland. This was unfounded, as statistics showed that, in proportion to the number of craft fishing in the area, if anything, fewer British craft were prosecuted. However, the suspicion prevailed, and tactless articles in local newspapers did not tend to allay it. The Hull trawler owners invited the Captains and Officers of both ships to lunch at their Club. At this lunch the Captain of the "Fylla," by his charm of manner, and still more by a very fine speech in English cleared the air, and did a lot to allay the suspicions of the fishing community. By the time the "Fylla" left Hull, a really friendly atmosphere prevailed.

REGIMENTAL JOURNALS

By MAJOR B. T. ST. JOHN.

THE history of any Regimental Journal which existed in the far off pre-war days must, alas, in the majority of cases be the tale of a chequered career. To the best of the writer's belief, only two such publications continued an unbroken sequence of numbers throughout the Great War. This lamentable breakdown was doubtless inevitable, and the two which held out were probably only more fortunate than their contemporaries in having someone to run them who, by reason of infirmity, was debarred from other activity. To-day, however, the Regimental Journal has become a well established institution.

The pre-war fluctuations and demises can be traced to various causes, but anæmic finance and inanition were the most prevalent of them. Journals were usually resuscitated after an interval, but resuscitation very often resulted in monthly productions re-appearing as quarterlies, and quarterlies as bi-annuals or even annuals. Nevertheless, for many years Regiments have persevered in trying to provide a comprehensive account of their movements and doings: something with which to eke out the terse dry records of the orderly room. Some of these earliest endeavours to fulfil that want are now nearing their jubilee volumes; for instance, the *St. George's Gazette* and the *Queen's Own Gazette*, both monthly Journals, are in the forty-sixth year of their continued existence.

There can be no doubt that a monthly Journal is an infinitely better Regimental institution than is a quarterly or yearly one. In the first place, current events remain current events only for the space of about a month; quarterlies are apt to chronicle only the events which occur at the end of a quarter, and annuals become merely a record, slightly more elaborated perhaps than the orderly room one, of the moves, promotions, deaths, etc., which have occurred during the year.

With the end of the war and the gradual return of the Army to its normal peace-time activities, the need for the Regimental Journal became more pronounced. New Journals were born and old ones were re-created, but the difficulties which were formerly encountered were still present, and some of them, notably the financial problem, were there

in an accentuated form. True, youthful enterprise had supplanted the old-time inanition, but journalism was far from being the sole extra claim on time and energy. The General Staff had evolved a tremendous enthusiasm for the intellectual training of the troops. Commanding Officers were bent on getting their units ship-shape again after the demoralising influence of four years' strenuous campaigning. The result of all this was that would-be editors of Regimental Journals had little time to devote to their literary activities. Many of them, too, had no experience of their own, and were at a loss to find anyone else from whom they could derive inspiration.

It was due to the imagination and enterprise of the Editor of the Royal Tank Corps Journal, itself the new Journal of a new Corps, that a scheme was evolved which went far to provide a solution of the main difficulties. The essence of this scheme can be summed up in the word "combine."

THE ASSOCIATION OF SERVICE NEWSPAPERS.

In due course, through the good offices of the then Secretary of the Royal United Service Institution, a meeting of editors was held in that building. The outcome of this was the formation of the Association of Service Newspapers.

Twenty-three Journals formed the original subscribers. They were: *The R.U.S.I. Journal*, *The Cavalry Journal*, *The Queen's Own Gazette*, *Hampshire Regimental Journal*, *The Dragon*, *The London Scottish Regimental Gazette*, *The Royal Fusiliers' Chronicle*, *Faugh-a-Ballagh*, *Royal Military Academy Journal*, *The Lion and the Rose*, *The St. George's Gazette*, *The Manchester Regiment Gazette*, *The Journal of the R.A. Institution*, *The Globe and Laurel*, *The R.A.O.C. Gazette*, *The Royal Tank Corps Journal*, *The Gunner*, *The Green Howards' Gazette*, *The Covenanter*, *The China Dragon*, *The Sprig of Shillelagh*, *The Artists' Rifles Journal*, and *The London Rifle Brigade Gazette*.

The Association thus formed drew up for the guidance of its members a sort of Charter, which set forth its objects and the spheres of activity in which it was hoped that combined action would prove helpful. A small Committee was elected to represent the Association and to decide by what means their policy could be best ensured. The main planks of this policy were two in number and can be described as "distribution" and "combination." They were designed to include the interchange of experience, ideas, articles and blocks, while it was hoped to make the Committee perform the duties of a sort of loud speaker into which the voices of all the members would be gathered and re-emitted as one.

The policy seemed at first to be popular and based upon sound theory, but under the test of experience it required a good deal of modification. Regimental Journals are nothing if not individualistic, and an ambitious scheme to provide a central news agency of Service sporting events and sporting articles had very soon to be scrapped; on the other hand, such additions to individual MSS. as the War Office Press Communiques were, and still are, much appreciated by members of the Association.

The "loud speaker" plan has proved itself to be thoroughly sound both in theory and practice. True, it was not invariably successful in obtaining the desires it voiced; as witness the turning down by the War Office of a suggestion that the annual meeting of editors might be considered to be a conference of such importance as to warrant the issue of free railway tickets, also the sympathetic though firm refusal of the Postmaster-General to allow Regimental Journals to be registered for transmission at Inland Newspaper Rates. But it has been listened to, on the whole, with attention, and its modest requests have been granted wherever possible; for instance, the names of Regimental Journals and their editorial addresses appear now in the Army List; while the Council of the Royal United Service Institution have consented to certain editors receiving its quarterly Journal at a reduced rate.

The greatest success of the policy of combining has, in all probability, been that gained in the financial field. Costs of printing and publishing have been cut down to a low figure, and the Navy, Army and Air Force Institute, to whose assistance as business managers the Association owes much, have undertaken to carry out all these services at what practically amounts to cost price. In the field of advertisement, from which most papers derive their main source of profit, it has been found that a combination of Service Journals is a much better proposition to lay before a possible advertiser than a single Journal with a very circumscribed circulation, and the Association employs its own agents to look after this part of its work so that the old-time drudgery of collecting advertisements which used to be such a bugbear to editors is now removed from them.

The Association of Service Newspapers is a young and tender plant and its failure would mean the demise of not a few Regimental Journals. Officers Commanding units can do a great deal in small ways to assist it and thereby to foster their own Journal. Should they desire further information on the point, it can be obtained from the Honorary Secretary, c/o The Royal United Service Institution, Whitehall.

To come back again to the Service Journal. Its value as a supplementary record has already been mentioned, but there are other uses it fulfils and influences it exerts which are deserving of a word or two.

For one thing, it serves as a very useful substitute or supplement to a letter home. It also forms a reliable guide to units returning to some station occupied by the Regiment in, perhaps, a former generation.

Then it must be realised that it is an inherent weakness in mankind, though most men will dishonestly disavow it, to enjoy seeing their name in print. The rank and file of a Regiment look to their Regimental Journal as the only medium by which this weakness is likely to be gratified. Again, the correspondence column can become the means of airing some project which might otherwise have been stillborn, or, even worse, have been launched into a storm of abuse due to the ignorance of its sponsors as to its true unpopularity. These publications also act as invaluable media for making known the doings of Old Comrades' Associations and the accounts and balance sheets of Regimental Charities and all similar institutions. They thus keep the past in touch with the present. They also help to keep the Territorial units in touch with the line units and *vice versa*. Their columns are always open to the appeals of those whose pleasure it is to work in aid of others who have fallen upon hard times.

It is not proposed, in this article, to offer advice in any form as to how to run a Regimental Journal, but it may be a matter of interest to those who read these lines to get an idea of the cost of production. In this respect it is perhaps enough to say that a rough, though sufficiently accurate, estimate of the cost of printing, publishing and issuing a Journal of twenty-four pages, with a monthly circulation of two thousand, is sixpence per copy, or somewhere in the region of £600 per annum. This would be for a Journal of the size, as regards text, approximating to *Punch*. The estimate allows for no payments for MSS. and is based on the assumption that all work in connection with editorship management and accountancy is done voluntarily. The *per contra* credit account is a matter which must be left to those who sway the Regimental life and have access to the Regimental coffers.

THE SAND TABLE

By COLONEL H. W. B. THORP, D.S.O., *p.s.c.*

IN the most interesting article relating to the Training of an Infantry Battalion, contributed by Colonel W. N. Nicholson, C.M.G., D.S.O., to the JOURNAL for February, 1929, he mentions the use of sand models.

It seems not inappropriate, therefore, to remind instructors of the value of the sand table. Properly used it effects economy in time and man power. Seated in a warm room in a good light in cheerful surroundings, many elementary lessons in tactics can be explained and demonstrated on the sand table during the winter individual training period, when weather conditions are often unfavourable for work on the ground. During the hot weather in India and elsewhere abroad, a sand table placed in a cool well-ventilated bungalow can often be used by day at hours when training in the sun is not practicable.

For troops whose opportunities to arrange tactical instruction out of doors are limited the sand table is of special value. Its use has the further advantage that problems can be dealt with in the evening by artificial light in a comfortable room, and this aspect should appeal particularly to those members of the Territorial Army whose daily avocations afford little time or opportunity for tactical study on the ground by day.

Many of the simple tactical problems suggested in the two official publications "Notes on Elementary Tactical Training," issued by the General Staff at the War Office in January, 1923 (price 1d.), and "Section Leading, 1928" (price 3d.), chapter X, "Simple Tactical Exercises," can with advantage be practised on the sand table during the winter months until those under instruction are sufficiently advanced to derive full benefit from an exercise conducted on the ground.

In Infantry Training, Vol. I, 1926, Section 139 (page 191), it is decreed that sand models should be used for indoor instructional training in field operations. Training and Manœuvre Regulations, 1923, Section 15, paras. 8 to 10 (page 25), also Sections 35 and 36 (pages 60 and 61),

lay emphasis on the value of the sand model for elementary tactical training.

Two short articles on the use of sand models have been published in "The Army Quarterly," viz.: "Training by Sand Models," in April, 1923, page 122, and "War Games on Sand Models," in July, 1926, page 397.

The heuristic method of teaching is well adapted for use at exercises on the sand model. It is suggested that prior to the exercise the simple tactical lessons to be taught should be described clearly but briefly, "For if the trumpet give an uncertain sound who shall prepare himself to the battle?" References to the appropriate sections of the Training Manuals may be added and the whole reproduced on a typewritten duplicated sheet distributed the day before the exercise takes place. At the conclusion of the exercise a short verbal summary of the principal lessons should be given.

In February, 1924, a helpful War Office leaflet, "Notes on the Use of Sand Models for Elementary Tactical Training," was issued when the provision of sand tables was approved by A.C.I. 65 of 1924.

In conclusion, two minor points may be mentioned. If the edges of the box or sand table are marked with narrow lines at one inch intervals these form a ready made scale for use with the model, an inch representing 5, 10, 50 or 100, or even 500 yards, according to the type of exercise in progress. If the floor of the sand box is painted bright blue, the instructor, like Moses of old in the wilderness, can produce with his rod a river of water in the sandy desert whenever and wherever required.

THE FRENCH MEDICAL SERVICES DURING THE GREAT WAR

(Being a summary of the facts narrated in the book named below)¹

By FLEET-SURGEON W. E. HOME, O.B.E., M.D.,
M.R.C.P.(Ed.), D.P.H., B.Sc.

THE author of this book was Director of Medical Services of the French Third Army until just before the Armistice. He had been Director of the Military Medical School at Val-de-Grâce, and must be judged well qualified to form an opinion on military affairs. His comments on professional matters have been already discussed in the technical press, English and French. Here we may refer to his account of the administrative side of his work.

Little had been done before the war to keep French senior medical officers aware of the latest administrative methods, while the evacuation of the wounded was exclusively the work of the General Staff who gave the principal medical officer too little information of what was being planned. Yet this very information he required all the more as he could not himself detail his staff for duties nor move his units. When the war began the High Command certainly expected the wounded to be well looked after, but blankets, food, surgical instruments, were all lacking, and the hospital trains were slow, ill-equipped, and without means for feeding patients. This book sets out to relate how all these defects were eliminated, how treatment improved, how disease was prevented. After much discussion it had at last been settled, early in 1914, that anti-typhoid inoculation of the French Army should begin in October; but in August, M. Mignon could not get any of the vaccine when he applied for it. He mentions that in the first seventeen months of the war, the Third Army had 39,712 enteric cases with 3,384 deaths, and states the parallel numbers for the B.E.F. as 2,796 and 179.

¹ Le Service de Santé pendant la Guerre de 1914-1918, par M. le médecin-général inspecteur Mignon (H.A.A.), du cadre de réserve. Paris. (Masson). Four volumes, 1926-1927.

Verdun was at the edge of the area of the Third Army, but being a fortress was autonomous; still, to Mignon's surprise, he also was detailed, on 1st February, 1916, as P.M.O. of that place. His new Chief of Staff, though an old friend, said a P.M.O. had nothing to do with the strength of a garrison, and Mignon had to find that out for himself. He was concerned to find that officers in the area were listless, thinking no one cared about them, stranded as they felt they were in a backwater of the war. In his first interview with his new General, the latter opened the conversation by saying: "Get all your cases out of Verdun at once, and tell no one why. The Germans will attack us on the 9th, but I can't get headquarters to believe it." So M. Mignon started setting up hospitals, collecting stores and staff. Fierce weather on the 14th gave them a respite, but on the 20th this ceased, and on the 21st the bombardment began. Collection and evacuation of the wounded became so dangerous that they were, by order, only done at night; yet 2,000 a day were evacuated in June. It was attempted to relieve divisions when they had lost a fifth of their strength. Over 200,000 were wounded; over 20,000 killed.

In April, 1917, Parliament had abolished the post of Medical Director-General at Headquarters in Paris, and the Medical Department was put under the General Staff; in fact it came to be under a captain. The battle of the Aisne (April, 1917) was due; General Nivelle had no medical officer on his Staff; the new chief medical officers of his armies had no information of what was to happen or when; the hospital scheme devised in Paris was too ambitious and was not completed in time. Machine guns took an unexpectedly heavy toll of the attack, which failed, and the medical units were swamped with 40,000 casualties, so that 6,000 cases overwhelmed a unit of 1,500 beds. The resulting confusion shocked visiting members of Parliament, and the doctors were blamed in the House, but, as our author submits, unfairly. Soon after followed the mutinies (they are not mentioned by M. Mignon), generally ascribed to vexation at the losses in action. Can anyone but believe that the losses were thrown into high relief and impressed on the minds of all present by the simultaneous medical breakdown? In June, General Pétain added a Medical Inspector-General to his staff, as later did all generals; medical officers got better information, were allowed to move their units themselves, and work became much easier, but the grant of full command and of an autonomous corps was still denied to them.

During the rest of the war the medical department was managed by an Under-Secretary of War, a member of Parliament. This, M. Mignon thinks a good arrangement; such a man is less hampered than a soldier by precedent, or by finance (as he has more influence with the

Treasury), while no soldier would dare dream of the numerous office staff a politician can get to help him. An officer studies economy, a politician knows what the country wants.

Towards the end of the war a motor officer was put on the staff of each motor ambulance convoy, and a medical officer on the staff of railway transport officers, which reduced friction; at any rate the bitter complaints of our author of the inability of French railways to run ambulance trains are no more heard hereafter.

All these things are written by M. Mignon, in a book of 3,000 pages, as a guide to building up a good medical staff in the next war which he fears cannot but come some day.

Nurses, he says, who came in groups under a good Sister were of the greatest help; those who came singly were less useful. He tells of a lady who got up to Verdun and established her hospital in the forward area, against all rules. She gave her wounded sumptuous and tasteful lodging, kind conversation and luxuries (like flowers); but the hospital staff had so high an admiration for these heroes, they would not let them leave until fit, to the despair of the D.M.S., who wanted every bed at the front for first aid. There is also a story of a sergeant, shot through the knee and successfully treated, so he was able later to become Minister of War. There are some good aphorisms: people with no complaints at the front begin to grouse when they are out of danger: the Medical Service is as important to success as the artillery: collectivities (populations and political parties) disregard justice and decide entirely by their own interests: consultants merely give advice, but who can disregard it: regulations are sometimes made as a guide to officers without initiative.

This book differs from others in its discussion of the influence of the personality of highly placed officers on their work. There are sad notes, too, on valued young doctors lost in the war, and the author declares that of all his senior officers, General Humbert was served, and is recalled, with the most devotion.

THE RUSSO-POLISH WAR OF 1920

A LITTLE-KNOWN CAMPAIGN

By LIEUTENANT-COLONEL C. E. D. BRIDGE, D.S.O., M.C., *p.s.c.*

(Being a review of "*La Guerre Polono-Russe de 1920*," by General L. Sikorski, sometime Prime Minister and Minister of War of Poland.)¹

OUR memories of perils past are notoriously short ; once a danger has been successfully warded off it is only human to regard it as having been either imaginary or exaggerated. For this reason it is most salutary that Europe should be reminded, more than eight years after the event, of the threat from which the Polish Army delivered her in 1920.

The Bolshevik advance on Warsaw in that year constituted a very real menace to our civilisation, for had the Polish capital fallen into the hands of the Soviet armies, none can say how far reaching would have been the effects of the monstrous plans of the Third International. German Communists had but lately been the masters of Bavaria, while in the North Liebknecht and Rosa Luxemburg were hastening the Spartacist movement. In Austria, a Communist "Putsch" had taken place as lately as November, 1918, and had broken out again in 1919, in close liaison with Bela Kun's Red Terror in Buda-Pest. Italy was the scene of political strikes, of the workers' control of factories and the persecution of officers. Order still reigned in Britain and France, it is true, but all attempts to coerce Russia, ill co-ordinated and lacking the determination which conviction carries, were fruitless.

"The path of the world-wide conflagration," wrote Tucharzewski, in a Red Army Order, dated 2nd July, 1920, "lies across the corpse of Poland." These words leave no room for doubt ; Poland was the barrier, and the battle of the Vistula deserves to rank in the world's history with the battle of Poitiers where Islam's westward surge was brought to a standstill.

¹ The translation was done by Commandant M. Larcher, and published by Payot, Paris, in 1928 : price 25 francs.

This French translation of General Sikorski's book, with a preface specially written by Marshal Foch, was published in October last. It is regrettable, in these days of Peace Pacts and Disarmament Proposals, that a book of this quality should apparently have attracted but scant notice in England. The narrative is clear and precise, the lessons drawn are most instructive, both from the military and military-political stand-points, and the personality of the author, his critical intelligence and well-trained mind which illumines its pages, make the volume of real value and interest to all those who are, or may in the future be, concerned with the study of the military problems which await solution in this country.

When, by the Peace Treaties of 1919, Europe assisted at the re-birth of the Polish State, it seems that she was singularly heartless, or singularly timid, or both, to have abandoned the scarce liberated country forthwith to her fate, leaving her Eastern frontiers still undrawn. It is true that the Polish incursion into the Ukraine in the spring of 1920 was carried out against the advice of the Allies, but even so the Supreme Council cannot divest itself of a large measure of the responsibility for it. To leave Poland with no frontiers against her traditional Eastern enemy was a direct encouragement to the state of mind which produced the Kiev adventure, an imprudence which led, as on the occasion of a former and more famous invasion of Russia, to the necessity for a disastrous retreat.

In July, 1920, the Polish Prime Minister and the Chief of the General Staff arrived in Paris to appeal to the Supreme Council for support against the Russian advance, but the Council contented itself with the promise of diplomatic intervention, entailing a telegram or two to Moscow, and the despatch to Warsaw of an Anglo-French Mission, of whom Lord D'Abernon and Major-General Sir Percy Radcliffe were the principal British members. From the Belgians and Austrians came but scant encouragement, while the Czechs, true to their traditional pro-Muscovite sympathies, were actively hostile and declined to allow war material to reach the hard-pressed Poles.

But in spite of it all, Warsaw was saved, and on the 14th August the Bolsheviks, then nearly up to the Eastern suburbs of the capital and at the same time threatening Lemberg and the Danzig corridor, were attacked and defeated to such good purpose that by the end of the month the Poles were able to announce the capture of over 200 guns and 100,000 prisoners.

General Sikorski's study covers the whole of these events; the cavalry drive to Kiev, the re-grouping of the Soviet armies consequent on Wrangel's defeat, the appearance of the Red cavalry under Budjenny's

dashing leadership Tucharzewski's plan, the retreat to the Vistula and the victory of Radzymin. He points out the dangers of allowing political considerations to outdistance those of sound strategy and describes the impossible situation of the Polish armies, strung out to breaking point on an immense front and without reserves, of which fact the Russians were not slow to take advantage. Their attack, delivered on the River Auta on the 4th July, had results disastrous to the Poles. The Rivers Niemen and Bug were crossed in rapid succession; Grodno and Brest, vital to the advanced line of defence of Warsaw, fell; the capital itself was menaced.

General Sikorski pays graceful tribute to the sound judgment and cool counsel of General Weygand, chief of the French Military Mission. Supported by his advice, the Polish high command decided on the establishment of a strong bridge-head at Warsaw, the constitution of a mass of manœuvre south-south-east of the town, and defensive action on the part of their left wing, north of it, with the object of preventing any further westward movement between the Vistula and East Prussia. The Bolshevik plan in this area was to emulate the manœuvres of Paskiewicz in 1831, and by outflanking Warsaw from the north bank of the Vistula and then crossing the river in a north to south direction, to capture the town from the west. The operations of the left wing, Sikorski's Fifth Army, thus became of capital importance to the success of the general Polish plan. In effect, the Bolshevik hordes opposed to him pushed on imprudently and too far. Sikorski held on and held fast, a confused mêlée ensued, but in the end, the enemy, menaced on their left flank by the operations of the Polish armies south of Warsaw, were caught in the general débâcle and driven back headlong.

Such, in very brief outline, is the story of this astounding campaign of six weeks, in which defeat, already well nigh catastrophic, was turned into brilliant victory. When it is remembered that the Polish armies, ill-trained and badly equipped, were actually formed and organized during the course of active operations and that Poland, abandoned by Europe, achieved this result without material assistance, we must render to her the homage due to the grandeur of her military spirit, to her courage and resource.

It is believed that an English translation of Sikorski's book is shortly to appear. Military students in Great Britain and overseas will welcome the opportunity to study, in English, this epic story of a young army, whose history and military traditions are as old as those of our own.

THE INTERNATIONAL SITUATION

THE FREEDOM OF THE SEAS

In view of the efforts which are being made in certain quarters, both in this country and abroad, to secure a revision of the international laws governing the conduct of belligerents and neutrals in war at sea, and of the ill-informed use which is frequently made of the term "freedom of the seas," the following views, published in American and French periodicals are of interest. The former was written before the passage of the United States Cruiser Bill.—EDITOR.

THE BRITISH AND AMERICAN STANDPOINTS

(Reproduced from the article by Mr. Walter Lippman, Editor of the "New York World" and one time Assistant Secretary of War, published in the "Saturday Review of Literature," 9th February, 1929).

WE have here a dispute which is almost as old as the American Government. Theoretically, the historic position of Great Britain has been that in time of war she is entitled to use her superior navy to suppress trade between neutrals and her enemy; theoretically, the historic position of the United States has been that in time of war the seas should be free to neutral trade, except to trade in instruments of war. In fact neither nation has acted consistently upon its own theoretical principles. When Great Britain or the United States have been at war they have both suppressed all the neutral trade of their enemies which they could lay their hands on; when Great Britain or the United States have been neutral they have clamoured for the rights of neutrals. That is amply demonstrated by the action of the United States Government during the Civil War and in the Great War after 1917, and by the actions of the British Government during our Civil War and in the Russo-Japanese War.

The premises of this ancient dispute are no longer valid. They depend upon a definition of contraband, and in modern warfare it is impossible to distinguish between goods which support military forces and goods which are destined for civilians alone. Modern warfare is an industrial operation on a national scale, and the old distinctions between military and civilian, contraband and non-contraband, are no longer real. That being the case, the neutral is compelled to choose

between acquiescing in the fullest use of sea power and denying the right to use sea power. To assert the freedom of the seas, that is to say, the inviolability of private property, is to take sides against the nation which has sea power; not to assert the freedom of the seas is to take sides with the nation which has sea power. In either event neutrality in any effective sense of the term has vanished.

The real difference in policy between the two governments is not to be found in what they actually do when they are at war. It is to be found in the assumptions of their official thinking when they are at peace. Neither government as yet is prepared to think of sea power as it really is to-day. Both governments, when they talk about sea power, are dealing not with the present reality, but with a tradition. Thus the British Government tends to think in terms of old-fashioned belligerency. It, therefore, champions belligerent rights. The American Government thinks in terms of old-fashioned neutrality. It, therefore, champions neutral rights. But facts are more powerful than theories. When the British Government is a neutral, it tends to act the way Americans talk; when the American Government is a belligerent, it acts the way the British talk.

That the British Government thinks as a belligerent does not mean, of course, that it is more bellicose than the American. The British habit of thought derives from a long experience in which the security of the Empire has been maintained by command of the seas, and the peace of the European continent stabilised by employing this command of the seas as a makeweight to the preponderant army. The British people are deeply convinced, therefore, that their own security, the safety of the Empire, and the equilibrium of the continent all depend upon command of the seas. Naturally they will not readily surrender the power to command the seas, and if they could retain the power, they would almost certainly use it in time of war.

The American habit of thinking as a neutral is not due to our being a peculiarly pacific people. It derives from our experience, which has taught us that we are not likely to be involved in a big war except incidentally to some other war in which the command of the seas is sought. Americans remember that they were drawn into the Napoleonic wars and into the Great War, and that in both cases the immediate interest at stake was the safety of their own shipping. In maintaining a powerful navy they are moved somewhat by considerations arising out of the difficulty of defending the Philippine Islands and the Panama Canal, but even more by the conviction that in the event of a war which is not their own, their power to make their own rights respected will be roughly proportionate to their naval strength.

Although this divergence of tradition has existed for over a hundred years, it is only in the last ten or fifteen years that it has entered where it is impossible to ignore it any longer. The American experience with the British blockade during 1915 and 1916 resulted in a radical change of naval policy. The American naval bill of 1916, which was sponsored by President Wilson, had as its object the construction of a navy equal to, perhaps larger than, the British. During the period of American association with the Allies, this programme was suspended. The rejection by the British Government at Paris of President Wilson's Second Point and the rejection of the Covenant by the Senate, brought about the resumption of the 1916 programme. The resumption of this programme led to the Washington Conference. The American offer to scrap all of the programme which would have given superiority made possible the successful agreement as to capital ships, and the acknowledgment in principle of naval equality. Certain difficulties raised, it seems, by the French, prevented agreement in respect to those ships which are employed to protect and attack commerce. The failure of agreement on this point led to the very considerable British cruiser programme of 1924, the effect of which is to restore to the British, if not command of the seas, then at least a superior power to threaten neutral trade. The American cruiser programme is the direct outcome of this situation, and the failure of the Geneva negotiations has convinced a very large section of American opinion, by no means merely the "big navy" interest, that an agreement on cruisers is improbable unless there exists at the time the agreement is negotiated a rough equality in cruisers.

If we look more deeply into this sequence of events we are compelled, I think, to recognise that it has been caused ultimately by the determination upon the part of the United States to put an end, not by declarations in international law, but by equality of strength, to the dominion of the seas by a single power. This determination reflects the growth of the United States as a world power, and it would be worse than foolish to underestimate it. It is, in fact, the chief element of the problem. The United States has become too powerful and its interests are too complex for it to be willing now, as it was for the past hundred years, to plead for the freedom of the seas while leaving the power to close the seas in the hands of another government. If I read events correctly, the United States will in the course of this generation proceed to put itself in a position where it has, not paper "parity," but an accepted equality of influence on the principal oceans of the world. A successful and useful understanding must, I believe, take this as its premise.

That there are powerful forces in Britain which are not ready to accommodate themselves to this American purpose is, I think, evident.

There is no need to mince words. The determination of the United States to exercise equality of influence upon the seas does involve the surrender of that dominion of the seas, which some of the British cherish for its prestige and political profit, and almost all the British believe is the bulwark of their national security. This conflict of purposes between the new determination of the United States and the old-established power of Britain would be incalculably grave were it not for the recent revolution in sea power.

There are two major elements in this revolution in the nature of sea power. The first, which I have already alluded to, is the disappearance of all workable distinctions between contraband and non-contraband. The effect of this is to destroy the validity of any proposal to limit the exercise of sea power out of respect for the rights of neutrals. We are compelled to assume that in any future war, sea power, if it is employed at all, must be employed with maximum destructiveness against all trade with the enemy. The second element is that the submarine and airplane have increased the power to destroy commerce and have vastly diminished the power to protect commerce. In modern naval warfare the offensive is much stronger than the defensive. The old assumption of naval strategy, that the superior navy can close the seas to the enemy's commerce and keep the seas open to its own, is obsolete. Against a nation equipped with submarines and airplanes the superior navy is not an adequate defence.

The Great War demonstrated this, and it is impossible to doubt, I think, that in another war the failure of sea power as a defence will be even more conclusively shown. The Germans with only 140 submarines in active commission at their maximum strength, sank, first to last, over eleven million tons of Allied shipping, and destroyed about two-fifths of the British mercantile fleet. They did this in spite of the overwhelming superiority of the Allied navies. It is fantastic, therefore, to suppose that in a great war of the future it will be possible for any power, however large its navy, to make the seas safe for itself and to close them to its enemy. The old British tradition that they must command the seas is obsolete because nobody can any longer command the seas. On the other hand, the notion of the neutrals, chief among them the United States, that they can protect their trade, is equally obsolete. The Germans sank seventeen hundred neutral ships and killed more than two thousand sailors; the British suppressed the trade of neutrals with Germany.

The conclusion is inevitable that sea power in the future will not be a defensive weapon in the sense that it can actually protect shipping from attack. It is defensive only because it is offensive; it is a protection because it can inflict so much damage. The British people,

therefore, are hugging an illusion if they think their navy can protect the maritime highways. The American people are hugging an illusion if they think they can build a navy which will protect their trade. The British can build a navy which will ruin our trade, and we can build one to ruin theirs, and in the event of war the chances are that we should both ruin ourselves. If that is so, then the British are not asked to surrender anything they really possess when they are asked to accept the theory of equal influence at sea.

But what, in fact, is equal influence at sea? The discussion at the Geneva conference showed that the attempt to agree on mathematical parity was confusing. The British Admiralty and the American Navy each wished to employ a yardstick, which, under the guise of parity, would give it superiority. The fact is that any scheme of parity is a fiction, for the reality of sea power, the thing which we are supposed to be measuring, is incommensurable. For that reason the problem has, I think, to be approached in a quite different fashion, and, I think, in a much simpler fashion.

The British have to-day a preponderance in cruisers. That is admitted. Congress, as I write, has before it a bill to authorise new cruisers. On some British calculations these new cruisers would give the United States a certain superiority in large cruisers; on some American calculations they will not give the United States superiority. The statesmanlike thing to do, it seems to me, is to pass the American cruiser bill, and then assume on both sides of the water that "parity" has been achieved. Let the governments agree that the *status quo* is parity, and that neither will build beyond it.

If they agree to call the *status quo* parity, it will be parity. The proof that it is parity will be that neither builds beyond it. If the two peoples think they have parity, they will act as if they had parity. And if they act as if they had parity, they will have parity. For parity is not an objective fact. It is a subjective feeling. The reality is that each nation is strong enough to ruin the other and neither is strong enough to protect itself. Since in a war between British and Americans there could be no victors, but only vanquished, regardless of their respective cruiser tonnage, any reasonable approximation which is felt to be equality will serve.

I am satisfied that if Congress passes the cruiser bill and if Britain accepts it as just, the naval competition can, with the display of some statesmanship, be ended then and there. For once the British show that they are not alarmed by our fifteen cruisers, it is inconceivable that a new cruiser programme could be advocated successfully in the United States. If, on the other hand, Britain "replied" by authorising

additional cruisers, the fat would be in the fire. It is very certain that in this event the United States would set to work at once to outbuild Great Britain.

The position that the controversy over cruisers should be treated as secondary to the controversy over neutral rights is, I think, impracticable from the American point of view. The proposal for adjusting the whole conception of belligerency and neutrality to the Pact of Paris will take a long time to realise. It will require a radical change in the American relationship to Europe. It calls for at least a tacit partnership in the maintenance of the existing constitution of Europe. While I myself am in favour of this partnership, I am satisfied that American opinion will not be ready for it, and that Europe will not put that partnership on a wholly satisfactory basis, until it is plainly evident that the United States enters on terms of full equality with Great Britain. It is easier to achieve a recognition of substantial parity than it is to revolutionise political policies. Therefore, the settlement of the cruiser controversy ought to come first. When it is felt to be settled, the public mind will not be agitated by a quarrel over tons and guns. Intransigent opinion in both countries will be held in check by the realisation that either navy is powerful enough to ruin the other country, and neither navy can be powerful enough to protect it.

Then only, I think, will the present realities behind the two legends of the dominion of the seas and the freedom of the seas assert themselves in official thinking. Then only will the long and difficult process of revising obsolete, but tenacious, patriotic theory become feasible.

A FRENCH VIEW

(Translated from an article by COMMANDANT A. THOMAZI in "Le Yacht," 23rd February, 1929).

THE American Senate, followed by the Chamber of Representatives, have given their consent to President Coolidge's proposal to start building fifteen cruisers of 10,000 tons and one aircraft carrier, at a cost of £51,800,000, the work to be put in hand before 31st July, 1929. This is the natural result of the abortive Conference held at Geneva during the summer of 1927, when the representatives of the U.S.A. attempted to come to some agreement with Great Britain and Japan with regard to the number of cruisers to be maintained; which number they wished to see decreased. As they were not able to persuade their rivals to agree to this reduction, and wishing to keep their own

naval strength equal to that of England and superior to that of Japan, the American Government had no other course than to build new ships.

During the long discussion which ensued on that occasion, the point given most prominence was the necessity to guarantee "the freedom of the seas." This served as an argument for both parties; those who wished to build more ships and those who advocated a reduction, the former declaring that "the freedom of the seas" must be maintained by force, and the latter trusting to international conventions. Both parties agree that it must be assured at any cost.

The freedom of the seas is a difficult term to define as the expression has a different significance for belligerents and neutrals, for maritime nations and those with no fleets, for a country with a large export trade and one that cannot exist without importing. Recently the head of the British Government, alluding to their fleet, said that it was the protector of the freedom of the seas. But he did not mean by this expression what the President of the United States does when he uses it. England wishes to guarantee the communications between the different parts of her wide spread Empire, and to guard against a possible enemy. To America, on the other hand, the most important aspect of the question is that in time of war neutrals should be able to use the seas under conditions which should resemble as closely as possible those of peace. It is the remembrance of the fact that neutrals suffered considerably in the last war, that has caused the American Senate to invite the Government at Washington to call an international conference to discuss and fix the rights of neutrals in future. This suggestion has been accepted and it now remains for the United States to extend an invitation to the maritime powers to attend this conference.

The question of the rights of neutrals is as old as sea warfare, and it would not be possible to treat of all its aspects here. One must, however, recall the last international conference on the subject. This took place a short time before the war, in 1913. The best known jurists in the world assembled in London, and after much discussion, drew up a Declaration which was very comprehensive, and perhaps rather too detailed. At any rate none of the governments who had taken part in drawing it up had signed it when the war broke out. Nevertheless Great Britain and France declared when hostilities started that they would adhere to this agreement, and at first they did so. But they very soon realised that Germany was reaping considerable advantage. As I have said, the Declaration of London was the work of jurists, and as such tended to be a codification of past customs rather than a practical solution of modern problems. To quote one example, cotton was not put on the list of contraband of war, as only its use in peace time had

been considered, instead of its use as an ingredient of explosives. For this reason and many other similar ones, Great Britain and France modified the Declaration gradually to suit the conditions of war, and in the end it ceased to exist at all. But the United States, who wished to continue their profitable trade both with Germany and the Allies, accused the Entente in the famous Wilson Notes, of violating the rights of neutrals. Had not the Germans violated these rights in a far more revolting way by their submarine warfare, no one can say on what side America might have ranged herself.

These events are still fresh in the memory of those who are directing the policy of America. They are under the impression that the last war not only modified the code regarding the rights of neutrals but that it was done away with altogether, leaving only the right of the strongest. They wish to make sure that in a future conflict the freedom of the seas shall not be confined only to the strongest maritime nation, and that the rights of neutrals shall have such recognition as shall secure to them this freedom.

There exist, therefore, two conceptions of the term which are directly opposed to each other, and it is to be expected that Great Britain, remembering the advantage she gained from the blockades during the war, will defend her views with energy.

It will be very regrettable if a conference should only end in common disaccord. It is to be hoped that it will result in each side modifying, to some extent at least, their own particular view. But this will be no easy matter.

THE PREPARATORY DISARMAMENT COMMISSION

REDUCTION OF NAVIES

ON the resumption of the sittings at Geneva of the Preparatory Disarmament Commission, Mr. Hugh Gibson, the U.S. representative, made a considerable impression by a speech which, in tone, was remarkably conciliatory towards other naval powers in general and Great Britain in particular.

He pleaded that the problem should be approached in the spirit of the Kellogg Pact, outlawing war as an instrument of national policy, and that the aim should be definite reduction of naval forces and not merely limitation of existing ratios.

Evidently mindful of the rocks on which detailed proposals for dealing with various classes of warships have come to grief in previous

discussions, Mr. Gibson confined himself mainly to general principles, but he suggested that "in order to arrive at a basis of comparison in the case of categories in which there are marked variations as to unit characteristics, it might be desirable, in arriving at a formula for estimating equivalent tonnage, to consider certain factors which produce these variations, such as age, unit displacement, and calibre of guns."

Lord Cushendun, speaking on behalf of the British Government, welcomed the helpful spirit of Mr. Gibson's declaration, and accepted the proposal to review the whole position anew in the light of what may be regarded as improved international conditions. He was careful to remark, however, that he thought "the British Government have also to some extent been investigating the possibility of arriving at equivalent values, taking into account those factors; but obviously this is a matter which is extremely technical. It is naturally a matter which my Government could only examine in conjunction with expert advice." He added that any suggestion of that sort which may be made by the Government of the United States, will be most carefully, and in a friendly spirit, examined and considered by the British Government.

REDUCTION OF ARMIES

UP to date the sittings of the Disarmament Commission which have taken place since the 15th April do not appear to have made any remarkable progress so far as they were concerned with land forces. The proposals put forward by the Representatives of the Soviet Union were too impracticable to stand serious discussion.

On the 26th April, however, Mr. Hugh Gibson, head of the U.S. Delegation announced that his Government had decided that, in estimating military forces in peace time, the trained reserves should not be counted in connection with any scheme for reduction of forces. Hitherto the U.S.A. had maintained that such reserves should be taken into every account. Great Britain, until a few months ago, had also held a similar opinion.

"With a view to facilitating an agreement," said Mr. Gibson, "the American Government is disposed to defer to the views of the majority of those countries whose land forces constitute their chief military interest, and to accept their ideas in the matter of trained reserves." He emphasized the hope that the delegations of other countries would, in view of the American attitude, make similar concessions, not in a bargaining spirit, but in a spirit of sincerity and conciliation.

M. Massigli (France) stated that his Government would make concessions wherever possible, but doubted whether it would see its way to fall in with this proposal as to trained reserves.

M. Sato (Japan) associated himself with what Mr. Gibson had said. He did not think Japan would be prepared to change her present system of recruiting.

Lord Cushendun (Great Britain) agreed with Mr. Gibson's proposal.

Count Bernstorff (Germany) opposed the American scheme, since it would favour countries using conscription. On the other hand, Germany, he said, might be ready not to press for the abolition of compulsory service, although this might really be the solution of the problem.

CHEMICAL WARFARE.

On the 30th April, Lord Cushendun stated that the British Government was ready to sign the Protocol of 1925, prohibiting the use of gas and bacteriological methods of warfare, with the proviso that Great Britain would only bind herself in regard to those States which also ratify the same agreement.

The Canadian representative supported the proposal.

The U.S.A., although the original proposer of this Protocol, have not yet ratified it.

Out of the fifty States adhering to the League of Nations eighteen have now ratified the Protocol.

BRITISH CRUISER NEEDS

VARIOUS speeches and reports made during, and subsequent to, the Coolidge Conference have tended to give the impression among those who are not fully acquainted with the course of events, that if there were two standard classes of cruisers the large ones would be for work with our battle fleet and the small ones for use on our trade routes.

Before the Coolidge Conference was opened it was hoped to obtain the abolition of the 10,000 ton 8-inch cruiser class, and to limit the standard cruiser to 7,500 tons and 6-inch guns. The existence at the time of several cruisers over 7,500 tons with the 8-inch guns had to be taken into account, but it was proposed to restrict the number of those to some small total, such as ten. The remaining sixty to sixty-five cruisers required by the British Empire would then have to be within the proposed new standard of 7,500 tons.

One of the main difficulties at the Conference was that the United States wanted a low total tonnage for cruisers, while we required seventy to seventy-five cruisers in order to allow for a sufficient number on our trade routes. Obviously these two needs could only be met if the

individual cruiser is small. To reduce the total tonnage in accordance with the views of the United States, we therefore continually urged the acceptance of a small standard type of cruiser,¹ pointing out at the same time that the protection of our trade routes made a larger number of cruisers essential for us. The cry, therefore, became that we wanted a large number of cruisers, and we wanted them small in order to meet the views of the United States as to total tonnage.

The idea that we required small cruisers for our trade routes, coupled with the fact that existence of larger cruisers at the time of the Conference made the establishment of a separate class for them a necessary part of our proposals, led later to the assumption that these large cruisers must be intended only for work with the battlefleet, and the small ones only for the trade routes.

¹6,000 tons was the figure in our final proposal.

A DANGER SPOT TO EUROPE

THE POLISH CORRIDOR

By "INQUISIDOR."

IN reviewing the relations between Germany and Poland, it is necessary to regard the Corridor question in a European sense, that is, as a matter that affects other European relationships, and on which the tranquillity of Eastern, if not the whole of, Europe depends. The Corridor forms the fundamental issue between Germany and Poland, and the main question is whether this outcome of the Treaty of Versailles is conducive to European peace or not.

What is the significance of the Corridor as an integral part of Poland? What effects has Poland's access to the sea on neighbouring countries? How does the Corridor affect European policies generally? The answers to these questions should enable the reader to come to a reasonable conclusion as to whether this strip of Polish territory is in the interests of Europe or not. All other considerations are of secondary importance as being based chiefly on local interest and convenience.

The Corridor provides Poland with an access to the sea at the expense of German friendship. Some say that this outlet is vital to Poland, and that without it she would be unable to live, while others contend that Poland's export trade could equally well be maintained by transit facilities through German ports. The question also arises whether this access to the sea is more important to Poland than the friendship of her great western neighbour and the economic advantages to be gained by

good commercial relations. On this point also opinions differ. Further, is it possible to revise the Treaty of Versailles without causing new difficulties, perhaps greater than those already existing, and shaking the foundations of the *status quo* in Europe generally? France and Poland maintain that the *status quo* must stand, fearing that, if any alteration in the Treaty were effected, similar requests would come pouring in from all parts of Europe. There is reason in this argument, and many thinking Germans appreciate this in spite of their national interests. It is also maintained that the Peace Treaties are not subject to revision in matters of territorial settlements, as Article XIX of the Covenant only provides for revision in cases where the provisions of a treaty cannot be executed; and in cases of territorial settlements the provisions have actually been executed. This argument may hold good from a purely legal standpoint, but it can scarcely form part of practical politics. If the nations are going to stand throughout by the letter of the law, impossible situations will be the inevitable result. There is an urgent need for "common sense" in Europe to-day.

Ethnographically, about 80 per cent. of the population of the Corridor is now Polish, while historically it seems that the Polish claim is rather stronger than the German one, but it must be remembered that in recent years Poland has carried out an intensive policy of "Polonisation" in all the districts where there was previously a considerable German population, and that every year the Polish majority is being increased by more or less artificial means. It must be admitted that in certain senses such a policy is perfectly natural and inevitable, but it is also true that the Poles leave no stone unturned to consolidate the Corridor, and to justify it in the eyes of the world as a political and economic necessity to Poland. The Corridor must be regarded as a territory to which the Poles have a strong claim, apart altogether from the fact that they are now the possessors.

But there is another side to the question. Poland's most urgent need is peace and an atmosphere of political tranquillity in which to consolidate the new Polish State and to lay a sound foundation for the future. Is the Corridor an advantage or a disadvantage to Poland from this fundamental standpoint? The answer is to be found in the effect of the *status quo* on her neighbours. Although Russia is naturally hostile to a strong Poland and on principle objects to Polish expansion, Germany is the neighbour chiefly affected by the new Polish outlet. In order to give to Poland this access to the sea, the Peace Conference committed the unforgivable sin of cutting off from the main territory of Germany that very province which has for centuries been the cradle of German culture, and to which is attached immense sentimental value, apart from any other considerations. Moreover, the effect of this action

has been practically to kill East Prussia economically. The Poles are doing all they can to facilitate transit through the Corridor for German traffic, and this is generally admitted ; but it does not alter the fact that the communications between the Reich and East Prussia are in the control of a foreign power, and that a situation has been created which is not in the interests of peace.

Financial reparations can be demanded and paid without leaving an aftermath of hatred and revenge. This is not so with territorial exchanges. Germany made a fundamental mistake in 1871 by demanding Alsace-Lorraine from France, a claim which helped to lay the foundations of the Great War. Ignoring this, the Allied Powers have sowed the seeds of future conflict by cutting in two what must always remain one of the greatest of European powers. Desirable as it may have seemed at the time, such action cannot be justified in the interests of peace, and if peace is disturbed in Eastern Europe, Poland will be in a very dangerous position with regard to her eastern and western neighbours. The Corridor has joined the hands of Germany and Russia, and placed Poland between two strong and unfriendly states. Surely this is not in Poland's best interests, when she is feeling her way along a difficult path as a newly restored European Power. The present Polish Government have no policy of aggrandisement, and fully realise the necessity of prudence and caution, but they do not yet appreciate that the dangers of the Corridor outweigh the apparent value which it has to-day. Yet the fact remains, that Germany's friendship would be more valuable to Poland than this access to the sea and that, if the Poles cannot be friends with the Russians, they must be on good terms with the Germans.

When, lastly, one comes to inquire how the Corridor affects European politics generally, there is no doubt as to the conclusion reached—that it is surely producing that very grouping of powers that preceded the last war. France's interests place her on the side of Poland, while Russia sees an opportunity in becoming the partner of Germany. At present Italy is not affected, but there will surely come a time in the programme of Mussolini when the ever increasing Italian population, prevented from emigrating, must find room for its existence ; and it is possible that a Franco-Italian and German-Polish crisis may become related within the next decade. The simultaneous timing of these two events would strain Europe's peace organization to the extreme limit, if it did not overwhelm it altogether.

Although at present compromise seems out of the question, feelings on both sides may be very different ten years hence, and it is possible that economic realities will eventually overcome the political and psychological factors which predominate just now. Only a future

generation can settle this question satisfactorily, but the peaceful evolution of the considerations that will finally determine the permanent status of the Corridor can best be assured by Germans ceasing to regard Poles as inferiors, and by Poles becoming less aggressive in their attitude towards their neighbours. The Germans argue that, owing to the systematic "Polonisation" of the Corridor, time is against their interests, but there is reason to believe that, when the time comes for the question to be reconsidered, ethnographical factors will play a much less significant part than they do at present.

To turn from the political to the military aspect of the Corridor, there is no doubt that in the event of hostilities between Germany and Poland a purely local conflict is out of the question, and that a war on a large scale would rapidly develop. It may almost be assumed that Russia would seize the opportunity and side with Germany. In this case the policy of these allies would obviously be to gain every possible advantage before Poland could receive external help. As foreign reinforcements from Western Europe would have to reach Poland either by way of Danzig and Gdynia, or through Yugoslavia and Rumania, there would be a considerable delay in their arrival. On the other hand, Russia's mobilisation would necessarily be a slow process, and the question of the initiative would, on this side, rest chiefly with Germany. At the same time, it is more than probable that Germany would have to face heavy pressure on her western frontiers.

In such circumstances, it is probable that Germany's primary objectives would be:—

- (1) To seize Gdynia and Danzig, thereby cutting the Polish railway and river communications with the sea, and denying Poland this inlet for foreign reinforcements;
- (2) To seize the railway bridges over the Vistula at Tczew, Grudziadz, and Torún, and to obtain control of the chief railway communications with East Prussia, viz.: Danzig-Tczew-Marienburg, Chojnice-Tczew-Marienburg, Chojnice-Grudziadz-Marienwerder, and Schneidemühl-Bydgoszcz-Torún-Deutsch Eylau. (The German strategical bridge of Münsterwalde has recently been removed by the Poles.)

As soon as Russia could get her forces moving, there is little doubt that she would try to seize the important strategical point of Dvinsk (near the juncture of Latvia, Lithuania and Poland) with a view to the recovery of Riga and to join Lithuania for the re-occupation of the Vilna Corridor of Poland. In the south, she could not neglect to concentrate troops near the Polish-Rumanian frontier to prevent reinforcements for Poland coming from this direction, while a Russian advance on Lwow would be a possible move.

Owing, however, to the slow Russian movements, it is more than likely that Poland would succeed in securing the Polish-Rumanian frontier before Russia had time to act with energy. In the west, the Poles would be expected to try to seize Danzig before the Germans, and to hold strongly the Vistula bridgeheads with a view to the isolation of East Prussia from Germany and a subsequent advance in that direction. They would also try to seize the railway junctions on the German side of the frontier, and the German railway Kreuz-Schneidemühl-Chojnice running parallel to the frontier. Further south, they would probably concentrate round Katowice for the defence of Polish Upper Silesia, and to cover the ancient capital of Krakow. In the north, one may suppose that the Poles would attack Lithuania with Kovno as their objective, and that they would try to occupy Dvinsk before Russia could reach it. These latter moves would tend towards the further isolation of East Prussia preparatory to the subsequent occupation in view.

The foregoing remarks only deal with the first moves in the event of hostilities and leave many possible contingencies out of account, but they give some idea of how a war in Eastern Europe might begin. While such an eventuality is scarcely to be considered in present circumstances, it should not be lost sight of when studying political tendencies in that quarter.

ITALIAN ASPIRATIONS IN THE MEDITERRANEAN

FRENCH APPREHENSIONS

RECENT articles in French publications show that there is growing apprehension in that country at the development of the Italian navy, and consequent disturbance in the balance of sea power in the Mediterranean.

The following views, relating to the subject, are expressed in an article published in *Le Yacht* of 9th February last.

The article first notes that, at a special meeting of the Italian Ministers of State, the question of naval construction for the financial year of 1929 was discussed for four hours. Finally it was decided to start, on 1st June next, with the construction of two cruisers of 10,000 tons, two cruisers of 5,300 tons, four submarines and four destroyers.

This, remarks the writer, is a considerable undertaking for the Italian navy, and the policy is likely to continue. In 1928, they had already ordered two cruisers of 10,000 tons, four destroyers and six submarines. In the case of the cruisers, this addition in strength exceeds not only that of the French Navy, but also that of the British. The following

is the naval construction work put in hand since 1920 by the respective countries: in France, six cruisers of 10,000 tons and three of 7,800, fifty destroyers and torpedo boats, forty-three submarines; in Italy, six cruisers of 10,000 tons, six of 5,300 tons, forty-six destroyers and thirty submarines. When one notes that 60 per cent. of the whole work has been undertaken since 1927, these figures are very remarkable.

The object is quite evident. Since the Franco-British plan for a naval compromise was submitted to the Government at Rome last year, the latter, after waiting to ensure that their reply would be in accordance with opinion at Washington, answered that they were prepared to consider all possible reduction in tonnage for fleets provided that "the displacement allowed to Italy was equal to that of the strongest continental navy" that is to say, the French navy.

By a strange coincidence the Italians were using an argument which had originally been put forward by the British Admiralty at the Washington Conference in 1921. In calling together representatives of the important maritime powers to discuss the question of the limitation of naval armament, the chief aim of the U.S.A. had been to check what they regarded as the excessive development of the Japanese navy, and to obtain absolute equality between their own fleet and that of Britain. The French and Italian navies did not interest them at all. It was the British representatives who suggested the same figures for both the French and the Italian navies, as they wished to consolidate the British position in Europe at least, in order to make more palatable to the British public the naval reduction insisted on by America. These figures referred only to ships of the line and aircraft carriers, but it was easy to foresee that the Italian government would make similar claims in regard to other types of ships. Whatever may be the good intentions of the present British government towards France, they will naturally be somewhat cramped by this act of their predecessors. Such is the result of a short sighted policy which aimed at an outward show of success at the expense of another nation.

The reasons why France should have a strong navy have been quoted hundreds of times. Her geographical position makes it essential for her to keep up her naval strength both in the Atlantic and in the Mediterranean; apart from the ships necessary to protect her various outposts and colonies. Her position in this respect is as difficult as that of England, and although the protection of her trade routes, since she is largely self-supporting, is not quite so important at the present, from a military point of view complete freedom of movement in the Mediterranean is essential; yet she cannot afford to withdraw ships from her other coasts for this purpose.

Every one hopes for a reduction of the burden of expense entailed by the maintenance of a large navy and army, but if this end is to be gained by means of international conferences and alliances, no nation must be reduced to a position in which it feels itself unsafe. No limitation of armament should be agreed to unless the figures proposed for each navy correspond to the needs of the country in the case of war or peace. Unless this is kept in mind all efforts at arbitration will fail. It was by ignoring this aspect of the problem that the U.S.A. frustrated the aims of the Geneva Conference in 1927, as they wished to prevent England maintaining the squadrons of cruisers which she considered necessary for her particular needs. Now, in the same way, the construction programme of the Italian government will hinder the new Conference which should take place in Washington in 1931, or possibly before.

In an international discussion, concludes the article, we are not likely to oppose the claims of Italy to maintain a fleet equal to ours in the Mediterranean. But Italy does not stop there. In stating her intention to possess equal tonnage to ours for every category of ships, she makes it clear that she wishes to dominate the Mediterranean by opposing us there with a force superior to the one which we could spare for those waters.

One cannot help comparing the position with the period of Anglo-German naval rivalry which preceded the war, and the situation should claim serious attention both in this country and elsewhere.

AFGHANISTAN

By COLONEL H. ROWAN-ROBINSON, C.M.G., D.S.O.

MUCH interest is now being taken in the history and geography of Afghanistan in the hope of finding therein some guiding line through the maze of queer happenings in that distracted country. Afghanistan is a young kingdom, barely 200 years old. Prior to the reign of its founder the Afghans served many masters, according to their location. That does not imply that they were negligible factors. Baber conquered India from Kabul; and many a time did Afghan kings and armies exercise control at Delhi.

Their growth to nationhood has been one long struggle against natural difficulties. Running from North-East to South-West, the great snow clad ridge of the Hindu Kush, whose passes are almost closed throughout the winter, cuts the country in two. It provides a barrier not only geographical but ethnological, a barrier too, between creeds and between

characters in man and between fertility and barrenness in nature. In the North, where dwells the bulk of the population, are peaceful tribes of Persian and Tartar origin and partly of the Shiah persuasion, pursuing trade and agriculture in large cities and in a comparatively green land. To the South, in a rugged country, are hardy warriors, Pathans of the orthodox faith.

The national spirit owed its development largely to three factors: firstly, the pressure of advancing forces—in the North, the Russians, in the South and East, the Sikhs and then the British; secondly, to the policy of rigidly excluding the foreigner; and, finally, to the firm, if ferocious, rule of Abdur Rahman, whose long and bloody reign was spent in concentrating power in Kabul.

The whole history of British relations with this young neighbour-country has been dominated by a single idea—namely, to preserve it strong, friendly and united, partly that raiders might lack encouragement from the far side of the border, but mainly that it might act as a buffer against a Russian advance on India. We have no wish to see a repetition on our frontiers of the conditions that have prevailed for centuries in Lorraine.

Two out of our three wars with the Afghan have been fought in pursuance of this policy, and with the same object we have subsidised him and exercised control over his foreign relations. These campaigns and this domination sowed the seeds of hatred and fanned the flames of nationality. The Afghan shook off our tutelage in 1919 in the terms of peace that followed Amanullah's unprovoked attack upon a very war-weary nation.

Control or no control, however, our policy has remained the same; and, during the best part of a decade of peace, prospects of a lasting friendship steadily improved and were reflected in diminished raiding on the part of the frontier tribes. Moreover, with the exception of the Khost episode, the new king appeared to be consolidating his position and bringing civilization to his country.

The present imbroglio has been a great blow to us. We have been robbed of the fruit of our labours just as it appeared to be ripening. And the future is very dim. The rifle, the knife, the bomb, may at any moment end a dynasty or cure a rebellion. There are several claimants to the throne, some with permanence in their pretensions, others whose aspirations could scarcely be regarded as hopeful. The Amir, once a water-carrier, and of a race not highly regarded by the southern warriors, is in Kabul, where he is strategically well placed, especially once the snows have melted. Here he can act on interior lines along relatively

good communications, and ultimately escape northwards if need be. He is now watching from the capital the approaches from Jellalabad from the Logar valley, and from Ghazni. His military position is in fact sound, but his origin seems to bar him from becoming a permanent ruler over Pathan tribesmen.

The situation now appears to be approaching a crisis. Amanullah having lost prestige, spent some months in Kandahar trying to court favour with the Western tribes. Then, with the entry of spring, he began to move and his forces have been reported at intervals on the Ghazni road as far forward as Kelat-i-Ghilzai and Mukur, but these were probably only reconnoitring parties. In such regions once a chieftain makes a decision he must, owing to the difficulty of feeding his troops, collect and march at once. Nadir Khan, the former Commander-in-Chief, is credited with the intention of acting as king-maker and placing the choicest representative of the Durani line, either Amanullah, or more probably, one of his brothers, on the Afghan throne. He is a man highly esteemed for, apart from having held many important posts, he commanded the Afghan forces in 1919 and succeeded in shutting up a British force, for a short time, in Thal in the Kurram. After having been Afghan Minister in Paris, he lived some years on the Riviera owing to ill health. On returning to his own country, on the deposition of Amanullah, he appears to have spent most of his time in the Khost area, apparently trying to influence the Mangals and Ghilzais in favour of the Durani dynasty. What success attended his efforts has never been quite clear, nor has his true attitude towards Amanullah. With his headquarters at Gardez, on the eastern flank of the Kandahar-Kabul road, he could always, if he chose, prevent the latter from moving on his old capital.

The third principal in this affair, in which several minor stars have waxed and waned within the compass of a week, is of course the Amir Habibullah. Having seized the power it is for him to hold it. How far he is succeeding is again obscure; but, as caravans are moving on the Kabul-Peshawar road it would certainly appear that he had established a certain amount of authority over the powerful Mohmand and Shinwari tribes. In any case he holds a strong strategic position at Kabul. He probably has his outposts on the Zamburak and Shinkai passes covering the approaches to Kabul from Ghazni and through the Logar Valley, and if he can procure any pilots he may be using his captured aeroplanes.

The latest news (dated the 28th April), if correct, indicates that Amanullah and Nadir Khan have come to an agreement; for their combined forces are reported to be marching from Ghazni on Kabul. Owing to difficulties of subsistence, it is more likely, however, that one

group is moving by the main road and the other over the Altimur pass, into the Logar Valley, where supplies are relatively plentiful. Events anyhow appear to be leading towards a decision. If the early actions prove indecisive it will be all in favour of the new Amir, for Amanullah will not be able to maintain his forces for long at a distance of over 300 miles from their base, and the battle will then lie between Habibullah and Nadir Khan.

Into this welter of contending factions we have not entered. We have, indeed, scrupulously refrained from any interference. This and the brilliant exploits of our airmen have heightened our prestige and have silenced calumny. Non-interference is perfectly sound and will remain our policy. We must watch events and hope that they will result in a re-united Afghanistan. If they do not, disintegration will probably take the form eventually of the separation of North from South and of the defection of the tribes about Kandahar from Kabul.

For us the danger lies in the North. The Tajik, the Turkoman and the Usbeg, in their Soviet Republics beyond the Oxus are closely related to the tribesmen of the area between that river and the Hindu Kush. The latter have hitherto resisted with ease all blandishments towards a common sovietisation with their cousins, for they are imbued with a strong pride in their Afghan nationality. Remove that bar, however, and they will almost inevitably be carried towards Russia in the currents of language, race and economics. And the Muscovite may hope, in the extension of his sway to the Hindu Kush, to find the Achilles heel of the British Empire that he has so long and so ardently sought.

On the southern side of the barrier we should also be the losers by the dismemberment of the kingdom. An ambitious government ruling from Kabul a circumscribed realm, might well look beyond its eastern borders for expansion. A weak government, on the other hand, might permit raiding and robbery on both sides of the frontier, thus ruining trade and keeping our tribesmen in a constant ferment.

The most satisfactory feature of the whole affair up to the present has been the exemplary behaviour of the latter. There has not been a single outbreak on the frontier during the Afghan trouble, if we except the fighting of the Orakzai Sunnis and Shiahhs over a purely domestic matter, which had its origin as far back as the summer of 1927, long before the deposition of Amanullah.

CORRESPONDENCE

VOCATIONAL TRAINING FOR OFFICERS

TO THE EDITOR OF THE R.U.S.I. JOURNAL.

SIR,—Would you perhaps find space for the following remarks which are prompted by Admiral Tupper's interesting lecture on the employment of the Retired Officer.¹

I only allude to the Retired Officer whom necessity drives to supplement his pension, and I only do so because I have actually seen the great difficulties that beset such Officers in obtaining employment, while it has been my privilege to assist something over fifty Retired Officers in this matter since the late War.

I would summarize my remarks in this way: (a) the Retired Officer is too old at forty; (b) sentiment plays no part in business; (c) only the fittest survive; (d) the best, and only the best, "holds the nest."

I know that some officers in seeking employment have been told that the ex-Service Officer has no commercial value; also that, while many of them have had the fortune to obtain good positions in the commercial world, and some have even made fortunes, yet the average officer has not been so successful.

I have therefore tried to analyse wherein the latter fail. Now, my conclusions coincide wholly with the remarks of the lecturer in regard to the Imperial aspect of the question and the desirability of everyone doing his "best" for our Empire, but necessity knows no law, and when a man is driven by force of circumstance to work for money that he may feed, clothe and educate a family in these hard times, he is bound to swim with the tide and keep his head above water as best he may. By that I mean that he has to accept whatever job he can get. Big commercial houses, yes, and even small ones too, are forced by experience to select their staff when quite young, and to train them up to their work. It therefore follows that the higher positions are filled, in normal circumstances, by rotation and seniority: just as promotion takes place in the Services. It therefore appears to me that everything possible should be done to train the young officer to seize every opportunity of obtaining commercial knowledge, i.e., there should be "vocational training" for officers.

I would urge this matter for the consideration of My Lords Commissioners of the Admiralty, the Army Council and the Air Council. I would even go further and suggest that all the Associations working on behalf of the Retired Officer might get together with a view to organizing a training school for Retired Officers, where such subjects as Salesmanship, Shorthand and even Typewriting, Commercial Organization, Correspondence, Book-keeping, and Accountancy, might be taught in a somewhat intensive course, so that Retired Officers might be given an opportunity of obtaining some training in subjects which would fit them to the needs of the hard commercial world of to-day.

Yours, etc.,

HAROLD B. TUFFILL,

Paymaster-Commander, R.N.R.

2nd November, 1928.

¹ "The Part of the Retired Officer in the Future of the Empire," published in the JOURNAL of February, 1929.

NAVAL BASES AND SEA POWER: THE FOUNDING OF SINGAPORE

TO THE EDITOR OF THE R.U.S.I. JOURNAL.

SIR,—The references to Raffles and the founding of Singapore in Captain Little's paper in the February number of the JOURNAL require some correction.

Captain Little, like some other biographers, has been misled by Raffles' own statement as to the date of its founding. The story of the confusion of dates can be read in Buckley's *Anecdotal History of Singapore*. Suffice it to say that the 6th February, 1819, is now, I believe, accepted by all historians, and certainly by the Government of the Straits Settlements as the correct date.

That is a minor point, but Captain Little makes the following observation in reference to the founding of Singapore:—

"The East India Company were concerned about the safety of their trade to the East and wanted a base to maintain a squadron in these waters."

This remark would suggest that (a) the East India Company conceived and authorised the establishment of Singapore; and (b) that the purpose of the establishment was for use as a naval base. The facts are rather different. Raffles, and Raffles alone, is responsible for the foresight and energy which gave Singapore to the British Empire, and that virtually in defiance of the wishes of the East India Company and of the British Cabinet. It is true that Hastings, the Governor-General of India, over-persuaded by the eloquence of Raffles at a personal interview, did sanction an expedition; but he repented as soon as Raffles had left and did his best to stop him. The Home Authorities, who were entirely pre-occupied in attempts to preserve the peace of Europe and cared nothing for the East Indies, wrote furiously to Hastings on learning of the planting of the British flag at Singapore.

Negotiations were in progress with the Netherlands Government and they were exasperated by this new development. "If the discussion is to be interrupted by the intelligence of fresh feuds and violence in the East it seems quite hopeless to begin the work of amicable settlement . . . if the Dutch should forcibly expel our Garrison at Singapore we must either submit in silence, or demand reparation at the hazard of a war which may involve all Europe." From that, I think, it will be clear that neither the East India Company nor the British Government can claim any share of credit in the founding of Singapore. How near they came to abandoning it is a matter of history.

It was Raffles who saw the need and its urgency, who hazarded his career and reputation in seizing the opportunity, and to him alone should be given the credit. His purpose was not to secure a naval base, though he later urged the merits of Singapore in that and many other directions, in his desperate attempts to save his settlement from being abandoned; it was to break finally the Dutch trade monopoly in the East Indies. The capture of Java had achieved this at one time, but politicians at home had handed Java back to the Dutch and the latter were rapidly tightening their net once more. Raffles' own letter from Singapore, which is the one from which Captain Little, I think, has quoted, but not quite accurately, puts the position clearly enough. "Our object is not territory, but trade; a great commercial emporium, and a fulcrum, whence we may extend our influence politically as circumstances may hereafter require. By taking immediate possession we put a negative to the Dutch claim of exclusion, and at the same time revive the drooping confidence of our allies and friends. One free port in these seas must eventually destroy the spell of Dutch monopoly; and what Malta is in the West, that may Singapore become in the East." I could add many more

quotations to amplify my remarks. I feel sure that Captain Little will forgive my correcting him, as I do so solely for the purpose of claiming for one of England's most brilliant servants the credit which is so greatly due to him and which is so often and so unjustly overlooked.

Ocean Buildings,
Singapore.

Yours, etc.,
C. E. WURTZBURG.

18th March, 1929.

FLYING BOATS OR AIRSHIPS

TO THE EDITOR OF THE R.U.S.I. JOURNAL.

SIR,—There are certain points in connection with the two very interesting lectures by Wing-Commander Maycock and Mr. Fritsche, reports of which appeared in your February number, which seem to call for further comment.

Mr. Fritsche is clearly so pronounced a partisan of the dirigible that he fails to give adequate consideration to the crucial questions of cost. For instance, one may well ask what sum must be set aside annually for depreciation of material. As regards the ratio of mileage to expense, the lighter-than-air craft would seem to be at a disadvantage as compared with the heavier-than-air craft. Again, what of the expense of the ground organization; is the cost of hangars, personnel, landing party, etc., of the airship going to be less than that of the flying boat, which can be accommodated by the provision of a mooring buoy? Yet again, what will be the cost of periodic overhauls in either case? Is this going to be cheaper for the airship—scarcely? Lastly, what happens in the case of a forced landing? The dirigible shows no signs of being able to develop the characteristics of a surface craft; in spite of many attempts, the Germans never succeeded in landing an airship on the water during the War.

Where I agree with both lecturers is in their view that the airship is likely to be complementary to the flying boat, in that the former will do the long non-stop flights, while the flying boat carries out trips of 250 to 750 miles; but even so, may it not prove to be the case that the dirigible is but a "transitional" form of aircraft, and that when the flying boat is fully developed for long distance flying, the lighter-than-air craft will cease to be an economical proposition.

Both lecturers omitted to refer to the fact that a flying boat can be fitted with a marine motor for propulsion on the surface of a fairly calm sea. As regards seaworthiness, it is claimed for the larger type of Dornier flying boat that it has shown itself capable of weathering for some hours waves 15 to 20 feet high. A still larger flying boat is in prospect.

Yours, etc.,

AERONAUTICAL ENGINEER.

THE ELIMINATION OF INFANTRY

TO THE EDITOR OF THE R.U.S.I. JOURNAL.

SIR,—In your February issue there appeared an article¹ criticising the new organization of an infantry battalion and the underlying principle involved. By the infantry officer who served during the late war, and who has since seen post-war efforts to apply war-time lessons to peace-time training, the arguments there put forward cannot be regarded seriously. Nevertheless the apparent weight of that article, exhibiting as it does much assurance and plausibility, seems to call for a corrective. Hence this reply.

¹ "The Elimination of Infantry." By Major G. W. Redway.

The gist of the article is that by a recent alteration of a war establishment the riflemen of a British infantry battalion, and consequently of a division, have been so reduced in numbers that the fighting efficiency of our Army is seriously affected. Tactically, the writer alleges, we now compare unfavourably with other countries, e.g., Russia, or even with our own pre-war Army, while the present organization will not permit of the necessary fatigues, etc., being carried out in time of war. Again, the casualty rate being constant, the existing establishment is not capable of meeting the drain on its resources which will inevitably take place in war. Let us examine the premises on which these charges are based.

(a) *Comparative figures.*—Here the first thing that occurs to us is the cardinal error underlying Major Redway's comparison and his deductions therefrom. He does not seem to have recognised the elementary fact that in war, as in other walks of life, everything is relative and nothing absolute. Figures and facts avail but little if this be overlooked. We shall show almost immediately that Major Redway's figures are inaccurate and therefore misleading. But even though we assumed them to be true it would be difficult to see what deductions of value could be drawn from them, unless all other relevant information (for example, bayonets per gun, per tank, etc., etc.) were produced to shed further light on the question. This effort to establish a case based on isolated statistics rather reminds us of the attempt to proscribe teetotalism on the plea that, of the teetotalers in a certain regiment, 50% died of disease and 50% ran away in battle. Then it transpired that there were only *two* teetotalers in that regiment!

Now, if our contention be true, the correction of Major Redway's figures seems a little unnecessary, but to assist in assessing the real value of his argument, perhaps the comparative figures given in our Table¹ may be useful. The British

¹ COMPARATIVE TABLE.

	British.		U.S.S.R.	
	Major Redway's	Ours.	Major Redway's	Ours.
<i>Company:—</i>	<i>figures.</i>		<i>figures.</i>	
Ration strength	159	151	239	201
Rifles	48 (a)	72 (b)	81 (a)	108 (c)
Automatics	—	—	9	—
L.Gs.	8	8	—	—
M.Gs.	—	—	14	8
				3 Light
				5 Heavy
<i>Battalion?—</i>				
Rifles (in rifle coys. only)	144 (a)	216 (d)	243 (a)	324 (c)
Automatics	—	—	27	—
L.Gs.	24	26	—	—
M.Gs.	18	16	42	30
				9 Light
				21 Heavy

(a) Major Redway's figures are what he calls "bayonet strength," but in a British infantry company 8 rifle sections at 8 men each alone give a bayonet strength of 64.

(b) Excludes L.G. sections and Company H.Q.

(c) Rifle strength and excluding machine gunners.

(d) Excludes Lewis gunners and machine gunners.

Note.—As a further item of information it may be of interest to note that, excluding machine gunners, the rifle strength of a British infantry battalion is 412, as opposed to the Soviet battalion's 324.

figures are taken from our latest war establishment, and the Soviet figures given can be guaranteed. We do not know the source of Major Redway's data.

(b) *Personnel available for fatigues.*—To the casual reader of "The Elimination of Infantry" the paucity of duty-men in a British infantry battalion might appear alarming. "A British three-company battalion, when the Lewis gun crews and machine gun crews are deducted, will produce only a gross of bayonets," says Major Redway and then goes on to catalogue the numerous duties for which men must be found in war. Among these he quotes all-night working parties, camp improvements and digging a communication trench.

May we draw Major Redway's attention to the cover of the book to which the new establishment of a British infantry battalion appears as an amendment. The words "Small War" are printed thereon, a fact which should reveal that the Army of to-day is being trained primarily for a war of movement. Bearing this in mind, Major Redway might go through his list of fatigues with a blue pencil and a better sense of proportion. By that time he may have come to the conclusion that not the "bayonet-men" only would be available for fatigues.

(c) *Effect of casualties on reduced establishments.*—"The battalion of 800 bayonets may lose 25% and carry on comfortably with 600 men," says Major Redway, and proceeds to point out how emaciated would be a "re-organized" battalion after subjection to the same rough treatment. Surely "comfortably" is hardly the word to use in connection with a unit that has been bereft of 25% of its fighting efficiency. If ability to survive casualties is the criterion of establishment we are in perfect agreement with Major Redway that present establishments are much too low. On the other hand, has he stopped to consider that possibly his 25% casualty rate was due to the size and sort of infantry in his model army? In short, is he not advocating a more royal method of eliminating infantry than that accomplished by the Army Council themselves when, under various pretexts, he proposes to crowd them more closely on the ground, thus giving a better target to enemy artillery, machine guns and tanks. If there is any value to be found in the recent organization we should say it is a fervent desire to conserve our infantry from the devastating effects of modern fire-power, and on that account, if for no other reason, it will have the approbation of every infantry soldier.

(d) *Reduction of bayonets and its effect on tactical efficiency.*—We are not surprised at Major Redway's criticism when we learn from him that "The foot-soldier's business is to drive from the field whatever infantry the enemy has brought into action," that "the proper study of infantry is the enemy foot-soldiers *within view*,"¹ and that "in battle it is obvious that infantry must fight infantry, and, other things being equal, numbers will prevail." These quotations certainly do not appear to be altogether consistent with the principle of war known as "Co-operation of all arms." Indeed, the second quotation seems to imply that, under modern conditions of war, the position of infantry will be a sinecure until television provides them with something on which to concentrate their attention.

In the face of these quotations there is no need to insist on the fact that it is fire and mobility, not bayonets, that win battles. Fire, because it enables infantry or other arms ultimately to assault and hold positions, and mobility because it is conducive to surprise and manoeuvre. We agree with Major Redway that "other things being equal, numbers will prevail"—even numbers of machine

¹ The italics are our Correspondent's.

guns! Neither erroneous deductions from trench-warfare battles, however, nor disparagement of heroic deeds that won Victoria Crosses will suffice to undervalue the effect of automatic weapons. But, then, how can one take seriously such statements as that the moral effect of the machine gun in the Great War was beyond dispute, but that it contributed little more than a waste of ammunition? Has Major Redway ever heard of Napoleon's dictum about the relation of the moral to the physical in war?

But there we will pause.

Yours, etc.,

"A THINKING BAYONET."

yours, etc.,
"A THINKING BAYONET."

Subsidiary commissions and secretariats are to be established in North Africa and the Colonies.

GENERAL SERVICE NOTES

FRANCE

RE-ORGANISATION OF THE COUNCIL OF NATIONAL DEFENCE.

The Conseil Supérieur de la Défense Nationale, which acts as advisory committee to the Government on all important questions effecting national policy, has recently been enlarged to include all Government Ministers and Under-Secretaries of State. It is rumoured that this increase in the membership of the Council has been made to facilitate the adoption of the new air laws, to which strong opposition has been put up by the Ministers of War and Marine, but it is probable that other considerations have contributed to the change, which has been accompanied by the creation of a "Commission d'Etudes," with a permanent secretariat.

When formed in 1904 the Council of National Defence consisted of the Prime Minister and Ministers of Foreign Affairs, War, Marine and the Colonies. At subsequent dates the Ministers of Interior, Public Works, and Air, were added to the body.

The newly created "Commission d'Etudes," which will work under the direction of the Prime Minister, is composed of the Chiefs of Staff of the Navy, Army, Air and Colonial Forces, together with representatives of all the Ministries interested. With the assistance of its permanent secretariat directed by the Secretary-General (Général de Division Serrigny), the Commission will evidently become the real working mechanism of the new organization and it will only be necessary for the Council to meet when important decisions are necessary on the reports of the Commission. The rule by which the Council was required to meet at least twice a year has been abolished.

Subsidiary commissions and secretariats are to be established in North Africa and the Colonies.

SPANISH COAST DEFENCE

Of the eighteen 15-inch guns and mountings complete being built in this country for Spain, two sets have now been shipped, and the following information has been published in the Spanish Press:—

Everything is in readiness at Ferrol for the reception of the first two Vickers guns of 38.1 cm. diameter, which will be mounted in the defences in course of construction at this naval base. An adequate crane has been prepared to unload the guns into the dockyard.

It took a little under a year to construct the road along which the guns will be transported to Monte Campelo, where two are to be mounted. The transportation of the guns from the port to their emplacement is expected to take from one to two months. The necessary material for this removal has been manufactured by the Trubia factory. Rails will be laid from mile to mile, raised and laid again.

The Monte Campelo battery is on the extreme right (? North) of the sea front.

Four batteries, each of two 38.1 cm. guns are eventually to be constructed at Ferrol, in addition to twenty other pieces of 15.24 cm. The range of the former exceeds 30 km. The installation for three of the four batteries is already complete; these are at Campelo, Prior and Priorino.

It is calculated that the base will not be completed for two more years. Each of the guns will be mounted over a pit of 9 metres depth, the whole of the excavation being to the extent of about 13 metres. Each of the two large pieces of the battery and the corresponding excavations are separated in such a manner that a single hostile shell could not simultaneously damage both. For the transport of projectiles and material a narrow gauge railway runs to the position from the depot and factory, which are situated on the inland side of the hill.

Motors and hydraulic installations are already prepared for the raising of the shells in the pit to the breach of the gun; this is done by means of a kind of large lift. These installations should not properly be called hydraulic, as water has been replaced by glycerine to prevent freezing.

Work is also in progress on the naval bases, which are being constructed at Cartagena and Mahon.

UNITED STATES

AIR COAST DEFENCE CONTROL

In view of the fact that the subject selected for the Royal United Service Institution's Prize Essay this year is "The Role of Aircraft in Coast Defence," it is interesting to note that Congress has appointed a Committee to determine the responsibility, as between the U.S. army and navy, for "control of aircraft for sea-coast defence."

There is reputed to be some overlapping between the army and navy air units stationed near the coast, and political enthusiasts, who seem to obtrude themselves into Service matters far more in America than in this country, are apparently not satisfied with the instructions fixing the demarcation of control issued by the Joint Army and Navy Board.

A further problem which this Committee may endeavour to solve is which Service is to remain in control on North Island near San Diego and Ford Island in Hawaii. According to an article in the *Army and Navy Journal* of Washington, the activities of the army and navy air units on these stations have reached a point where expansion is impossible unless one Service or the other relinquishes its portion of the Islands, and the two Services seem to have reached a deadlock in the matter.

NAVY NOTES

GREAT BRITAIN.

H.R.H. THE DUKE OF GLOUCESTER.

The Duke of Gloucester left London on 29th March to invest H.M. the Emperor of Japan with the Insignia of the Order of the Garter. He embarked in the P. & O. steamship "Morea" at Marseilles, and transferred at Hong Kong to the "Suffolk" to make the passage from there to Tokyo. He arrived at Yokohama on 2nd May. The suite of His Royal Highness includes Rear-Admiral the Hon. Herbert Meade, C.B., D.S.O.

H.R.H. PRINCE GEORGE.

It was officially announced on 18th March that, acting upon the advice of medical authority, H.M. the King had approved that H.R.H. Prince George should now retire from active participation in the work of the Royal Navy. His Majesty has decided, with the concurrence of the Prime Minister, that His Royal Highness shall be attached to the Foreign Office, in order to gain knowledge of the administration and work of a Department of State.

Proposing the toast of "H.M. Civil Service" at the annual dinner on the same evening, Prince George expressed regret at the close of his fourteen years' service in the Navy, and said he derived some consolation from the fact that he is still to remain on the Active List.

Prince George has accepted the position of President of the Sea Scout Branch of the Boy Scouts' Association.

FLAG PROMOTIONS AND RETIREMENTS.

Admiral Sir Richard Webb, K.C.M.G., C.B., on concluding his tenure of the post of President of the Royal Naval College, Greenwich, was placed on the retired list, at his own request, to date 27th February. In consequence, Vice-Admiral Sir Reginald Tyrwhitt, Bt., K.C.B., D.S.O., D.C.L., was promoted to Admiral; Rear-Admiral Alan G. Hotham, C.B., C.M.G., to Vice-Admiral; and Captain C. J. C. Little, C.B., A.D.C., to Rear-Admiral. On the retired list, Vice-Admirals H. Blackett, H. W. Grant, C.B., Sir Charles de Bartolomé, K.C.M.G., C.B., S. S. Hall, C.B., and D. L. Dent, C.B., C.M.G., were promoted to Admiral, to date 27th February.

Vice-Admiral A. G. Hotham, was placed on the retired list on promotion, to date 28th February, and in consequence, Rear-Admiral A. P. Addison, C.B., C.M.G., was promoted to Vice-Admiral; and Captain the Hon. A. C. Strutt, C.B.E., to Rear-Admiral.

Rear-Admiral Strutt was placed on the retired list, at his own request, to date 1st March, and in consequence Captain W. M. James, C.B., was promoted to Rear-Admiral.

Vice-Admiral A. P. Addison, C.B., C.M.G., Director of Dockyards, was placed on the retired list, at his own request, to date 1st March, and in consequence Rear-Admiral F. C. Dreyer, C.B., C.B.E., was promoted to Vice-Admiral, and Captain R. G. H. Henderson, C.B., to Rear-Admiral.

The death occurred on 23rd March, a few days after his taking up the post of President of the Royal Naval College, Greenwich, of Vice-Admiral J. W. L. McClintock, C.B., D.S.O., aged fifty-four. In consequence, Rear-Admiral F. H. Mitchell, C.B., D.S.O., was promoted to Vice-Admiral; and Captain L. L. P. Willan, to Rear-Admiral. Rear-Admiral Willan was placed on the retired list, to date 25th March, whereby Captain A. R. Palmer was promoted to Rear-Admiral, from the same date. Rear-Admiral Palmer was placed on the retired list, to date 26th March, whereby Captain Geoffrey Hopwood, C.B.E., was promoted to Rear-Admiral. On the retired list, Rear-Admiral C. Tibbitts, C.B.E., M.V.O., was promoted to Vice-Admiral, and Captain R. Collins, C.B., to Rear-Admiral, to date 24th March and 25th March respectively.

FLAG APPOINTMENTS.

VICE AND REAR-ADMIRALS OF THE UNITED KINGDOM.—It was announced on 26th March that the King had approved of the appointment of Admiral the Hon. Sir Stanley C. J. Colville to be Vice-Admiral of the United Kingdom and Lieutenant of the Admiralty, in succession to the late Admiral Sir Francis C. B. Bridgeman; and of Admiral Sir Montague E. Browning to be Rear-Admiral of the United Kingdom, in succession to Admiral the Hon. Sir Stanley Colville.

Admiral Sir Francis Bridgeman died on 17th February at Nassau, in the Bahamas. His body was landed at Southampton from the "Olympic" on 2nd March, and was received by a naval guard of honour and transferred to a motor hearse for burial at Copgrove, Yorkshire.

PRESIDENT OF THE ROYAL NAVAL COLLEGE.—In the vacancy caused by the death of Vice-Admiral J. W. L. McClintock, Vice-Admiral W. H. D. Boyle, C.B., was appointed President of the Royal Naval College, Greenwich, and Vice-Admiral Commanding the Royal Naval War College, to date 3rd April.

COMMAND OF THE RESERVE FLEET.—Vice-Admiral P. H. Hall-Thompson, C.B., C.M.G., was appointed Vice-Admiral Commanding the Reserve Fleet, in succession to Vice-Admiral Boyle, to date 2nd April.

LEAGUE OF NATIONS.—Vice-Admiral D. M. Anderson, C.B., C.M.G., M.V.O., has been appointed as Admiralty Representative on the League of Nations Permanent Advisory Commission, to date 26th April, in succession to Vice-Admiral W. A. Howard Kelly, C.B., C.M.G., M.V.O., appointed Vice-Admiral Commanding the First Battle Squadron, and Second-in-Command, Mediterranean.

REAR-ADMIRAL OF SUBMARINES.—Rear-Admiral M. E. Dunbar-Nasmith, V.C., C.B., who relinquished command of the Royal Naval College, Dartmouth, on 2nd January, is to be Rear-Admiral of Submarines, in succession to Rear-Admiral H. E. Grace, C.B., to date 2nd September.

SENIOR NAVAL OFFICER, YANGTSE.—Rear-Admiral Colin K. MacLean, C.B., C.V.O., D.S.O., is to be Rear-Admiral and Senior Naval Officer in the Yangtse, in succession to Rear-Admiral H. J. Tweedie, C.B., to date August 19th. He will assume command about 15th October.

(See also DOMINION NAVIES).

THE NAVY ESTIMATES.

The "Statement of the First Lord of the Admiralty, Explanatory of the Navy Estimates, 1929," was published on 8th March (Cmd. 3283). The Navy Estimates themselves were issued on 11th March (No. 62). In the Statement, Mr. Bridgeman showed that the total of £55,865,000 is a reduction of £1,435,000 below the Estimates of 1928. This considerable reduction is being made, although no diminution in strengths of the Fleet and the Fleet Air Arm has taken place, and, on the contrary, modern developments have shown the necessity for two additional flights for the latter.

The provision for new construction is £8,621,626, or £1,008,231 less than in 1928. The main reason for the smaller provision is the cancellation of the three cruisers from the programmes of 1927 and 1928, as the result of which only seven cruisers building will be at the stage requiring large payments in 1929, as against ten in the previous year and twelve in 1927. After explaining the increased charges for the Fleet Air Arm and for naval works, the First Lord adds "in preparing these Estimates we have, as in previous years, followed the plan adopted by the late Government in preparing Navy Estimates for 1924; that is to say, after allowing for all known variations in expenditure, a considerable allowance has been made for possible under spendings through unforeseen causes interfering with the progress of contract work." The First Lord also states that in effecting economies wherever possible in maintenance charges, the Board have "been greatly assisted by the absence of any disturbing feature in the general naval position, and have therefore felt justified in deferring or spreading over a long period the fulfilment of many important naval requirements."

As in recent years, a series of "Notes on Matters of General Interest" are appended to the First Lord's Statement, beginning with the distribution of the Fleet; its activities abroad, particularly in South America and China; and including reference to naval air work, wireless and signal development, co-operation between the Services, progress at Singapore, and matters of personnel, administration and material. An alteration in the constitution of the Admiralty Board is being made experimentally; the Assistant Chief of Naval Staff will cease to be a member, and will perform his duties under and on behalf of the First Sea Lord.

PERSONNEL.

REDRESS OF WRONGS.—New Articles to be embodied in King's Regulations and Admiralty Instructions, No. 9 "Redress of Wrongs," and No. 11, "Remarks or Criticisms on Superiors," were published in Fleet Orders on 28th March, in substitution for the existing articles 9, "Complaints"; 10, "Letters of Complaint" (which is now cancelled); and 11, "Remarks or Criticism on Superiors." The new article 9 shows to whom a complaint is to be made; what assistance can be given to a junior officer, petty officer or man; the rules to be observed by complainants; and how the complaint is to be dealt with. If the complainant is not satisfied, he may request his complaint be forwarded to the next superior authority, and so on to the Commander-in-Chief, and finally to the Admiralty. No officer, petty officer or man is to be penalised for having made a complaint in accordance with these rules.

ADDITIONAL CAPTAINS FOR DESTROYER FLOTILLAS.—With a view to creating more sea-going appointments and giving increased experience in handling destroyers, the Admiralty have recently appointed a junior Captain to each of the First, Second and Sixth Flotillas, in addition to the Captain (D).

The two Commanders remain, but one is replaced as a Division Leader by the newly appointed Captain and acts as a spare Division Leader.

PAYMASTER DIRECTOR-GENERAL.—Paymaster Captain H. W. E. Manisty, C.B., C.M.G., Port Accountant Officer and Librarian at Portsmouth, has been appointed Paymaster Director-General of the Navy, with the rank of Paymaster Rear-Admiral. He will succeed Paymaster Rear-Admiral B. C. Allen, C.B., M.V.O., on 1st July.

NAVAL HISTORY ESSAYS.—The following officers have been awarded prizes on the result of the annual examination in Naval History for the year 1928 :—Lieutenant P. W. Brock, prize of £50 and medal (Lieutenant Brock was awarded a certificate of merit in a previous examination); Lieutenant P. Bethell, prize of £10 and certificate of merit; Lieutenant R. W. Griffith, prize of £10 and certificate of merit; and Lieutenant J. H. Montgomery, prize of £5 and certificate of merit.

OGILVY AND GOODENOUGH AWARDS.—The Ogilvy Gold Medal for 1928 has been awarded to Lieutenant Ralph Heathcote, R.N. College, Greenwich. The Goodenough Memorial Prize for 1928 has been awarded to Sub-Lieutenant J. N. Hicks, H.M.S. "Emerald."

RYDER MEMORIAL PRIZE.—A Ryder Prize has been awarded to Acting Sub-Lieutenant W. F. R. Segrave, of H.M.S. "Excellent," who passed the best examination in French in the Sub-Lieutenants' educational courses, held at the R.N. College, Greenwich, during 1928.

FOREIGN LANGUAGE EXAMINATION.—In the annual examination in foreign languages in December, 1928, the following prizes were awarded :—French : Paymaster Lieutenant C. A. Chiswell, prize of £30, medal and certificate of merit; Lieutenant G. W. Ross, R.M., prize of £25 and certificate of merit; Lieutenant (E) H. F. Atkins, prize of £20 and certificate of merit; and Surgeon Lieutenant R. B. McVicker, certificate of merit. German : Lieutenant S. H. Pinchin, prize of £20 and certificate of merit. Spanish : Lieutenant E. V. Roberts, R.N., retired, prize of £30, medal and certificate of merit; Lieutenant D. Grove-White, prize of £5 and certificate of merit. Italian : Paymaster Lieutenant J. E. D. Smith, prize of £20 and certificate of merit.

PRIZE FUND RESIDUE.—The Board of Admiralty has now approved of grants from the balance of £151,500 of the Naval Prize Fund available for distribution to Naval and Merchant Service Charities. A grant of £50,000 is made to Greenwich Hospital funds, and £92,000 is divided between forty-seven other charitable institutions and organizations. The largest sum, £50,000, goes to the R.N. Benevolent Trust; £10,000 to the British Legion (Officers' Association); and £3,050 to Greenwich Hospital for R.N., R.M. and R.N.R. Warrant Officers.

MATERIAL.

CRUISER PROGRAMME.—The 1928 quota of shipbuilding under the five-year programme, approved in 1925, was to have included three cruisers, one of the "A" class and two of the "B" class. One cruiser was struck out of this year's quota. The two to be built will both be of the "A" class of 10,000 tons, and work upon them has been begun at Portsmouth and Devonport Dockyards. As regards the three ships of the 1929 quota, the First Lord announced on 14th March in the House of Commons that the design of one is not yet settled. The other two will be smaller cruisers with 6-inch guns, needed to replace smaller cruisers which are becoming obsolete.

DESTROYER CONTRACTS.—Orders were placed in March for the torpedo craft of the 1928 programme. The flotilla leader will be built by Vickers-Armstrongs, Ltd., Barrow. Of the eight destroyers, two will be built by the Palmers' Company, Jarrow; two by Hawthorn Leslie & Co., Hebburn; two by Swan, Hunter & Wigham Richardson, with machinery by the Wallsend Slipway Company; and two by John Brown & Co., Clydebank.

SUBMARINES AND SLOOPS.—Contracts were awarded in February for five out of the six submarines in the 1928 programme (one vessel having been allotted to Chatham Dockyard). Three will be built by Vickers-Armstrongs, Ltd., Barrow; one by Beardmore & Co., Ltd., Dalmuir; and one by Cammell, Laird & Co., Ltd., Birkenhead. The two contract-built sloops in the programme will be built by Swan, Hunter & Wigham Richardson, and their machinery by Hawthorn, Leslie & Co.

LAUNCH OF THE "ANTHONY."—The destroyer "Anthony" was launched on 24th April from the Cartburn Yard of the Scotts' Shipbuilding and Engineering Co., Ltd., Greenock. This was the first of the eight destroyers of the 1927 programme to take the water.

LAUNCH OF THE "ORPHEUS."—H.M.S. "Orpheus," the second of the two submarines of the 1926 programme ordered from Beardmore & Co., Dalmuir, was launched on 26th February, the naming ceremony being performed by Lady Berry, wife of the Director of Naval Construction.

H.M.S. "LONDON."—The new cruiser "London," Captain H. H. Rogers, M.V.O., O.B.E., visited Gravesend from 16th to 19th March, in order to allow the Lord Mayor and Corporation of the City of London to pay an official visit to the ship. On Sunday, 17th March, the cruiser was open to public inspection. Next day, 220 of her ship's company came to London and were entertained by the Lord Mayor and Corporation at Guildhall. The Lord Mayor presented a piece of plate for use in the wardroom, and Sir Charles Wakefield a silk ensign. The "London" had already received a collection of historic prints, representing previous "Londons" and their history, from Lord Ebbisham, during whose term of office as Lord Mayor the cruiser was named and launched by Lady Ebbisham at Portsmouth.

H.M.S. "SUSSEX."—A Committee headed by Lord Leconfield has organized a presentation from the County of Sussex to the new cruiser of that name, which was launched by Lady Leconfield. It takes the form of a ship's bell in silver, the second largest ever made (the largest having recently been made for H.M.S. "Nelson"). As there was no protected harbour in Sussex to which the cruiser could go to receive the gift, it was presented to her at Portsmouth on 24th April when she was open to visitors from the County.

H.M.S. "DEVONSHIRE."—The cruiser "Devonshire," Captain H. C. Rawlings, D.S.O., commissioned at Devonport on 19th March for service in the First Cruiser Squadron. On the quarter-deck of the vessel, on 11th April, Lord Mildmay of Flete presented the officers and men with a silver replica of Drake's Drum. Lady Mildmay of Flete also presented a silk White Ensign on behalf of the women of the County.

DIESEL ENGINES IN THE FLEET.—An authoritative denial is given to reports that the three cruisers of the 1926 programme, the "Norfolk" and "Dorsetshire," of 10,000 tons, and the "York," of 8,400 tons, are to have Diesel engines for cruising purposes. The only fighting ship of the Royal Navy, apart from submarines and the old monitor "Marshal Soult," yet fitted with Diesel engines is

the minelaying cruiser "Adventure," which has them for cruising purposes, but her main propelling machinery consists of Parsons' geared turbines.

NAVY FUEL.—Speaking at the annual dinner of the Institution of Naval Architects on 20th March, Rear-Admiral R. R. C. Backhouse, Third Sea Lord, said that their sympathies were with coal, but there were such great advantages in oil that he was afraid the use of coal was not practicable. The Admiralty had established chains of oil fuel stations all round the world, and were not prepared to depart from that principle.

MISCELLANEOUS.

RETURN OF FLEETS.—The annual Parliamentary Return of Fleets (British Empire and Foreign Countries) was issued on 8th March (Cmd. 3277, price 2s.).

NAVY WEEKS.—The annual "Navy Week" at Portsmouth and Plymouth will be from Saturday, 17th August, to Saturday, 24th August, inclusive, except Sunday the 18th; and at Chatham from 12th to 17th August, inclusive.

ECHO SOUNDING.—At the Royal Geographical Society, on 11th March, Rear-Admiral H. P. Douglas, C.M.G., Hydrographer of the Navy, described the new system of echo sounding now in use, revealing for the first time the success of the British Admiralty method.

SAFETY AT SEA.—An international conference on the safety of life at sea was opened by the President of the Board of Trade on 16th April. Vice-Admiral Sir Herbert Richmond is Chairman of the British delegation.

KAPOK COMMITTEE.—Admiral of the Fleet Sir Henry Oliver was in March appointed Chairman of a Board of Trade Committee on the use of kapok in life-saving apparatus.

EXERCISES AND CRUISES.

FIRST LORD'S AND FIRST SEA LORD'S VISITS TO THE FLEET.—At the end of March, during the Easter recess, Mr. Bridgeman, First Lord, visited the combined Fleets at Gibraltar, and stayed on board H.M.S. "Queen Elizabeth" as the guest of Admiral Sir Frederick Field. The First Sea Lord, Admiral of the Fleet Sir Charles Madden, also visited the combined Mediterranean and Atlantic Fleets during their stay at Pollensa Bay.

ATLANTIC FLEET.—On 30th March, Admiral the Hon. Sir Hubert Brand gave a farewell dinner on board the "Nelson" to the Admirals and Captains in the Atlantic Fleet, which left Gibraltar for its home ports on 2nd April.

MEDITERRANEAN FLEET.—On 5th April, Admiral Sir Frederick Field held a review on Gibraltar racecourse of over 4,000 officers and men of the Mediterranean Fleet. The battalions afterwards marched through the main street of the town, when General Sir Alexander Godley took the salute as they passed Government House.

CHANGES IN DISTRIBUTION.—During the large repairs to the "Hood," the "Tiger" is to join the Battle Cruiser Squadron as a private ship, and the flag of the Rear-Admiral will be flown in the "Renown." On 6th April, the "Repulse" became flagship of this Squadron temporarily. The place of the "Tiger" as gunnery firing ship will be taken by the "Iron Duke."

The new sloops "Bridgewater" and "Sandwich" left England on 8th April for China, to replace the "Bluebell" and "Foxglove," which left Penang on 5th April. The four ships were to meet at Aden and exchange duties there.

The destroyer flotilla employed in Irish waters was in February reduced from three vessels to two, and the "Sesame," which was withdrawn, was ordered to relieve the "Tyrian" in the Atlantic Fleet.

H.M.S. "DURBAN."—A notable commission ended with the return to Devonport, in March, of the "Durban," which had spent the first half of her commission in China and the latter half on the America and West Indies Station, whither she proceeded via Japan, Honolulu, and British Columbia. After arriving at Esquimalt, she made a northern cruise to beyond the Arctic Circle, visiting Wrangel Island, and on her way down to the Panama Canal called at Monterey and Santa Barbara. Among her last duties during the commission was to visit the Bahamas to render assistance to places stricken by the hurricane.

THE FLEET AIR ARM.

FLYING PROGRESS.—In his Notes accompanying the Navy Estimates, the First Lord states that steady progress continues to be made in the employment of aircraft with the Fleet, and the number of hours flown from the carriers has increased by 73 per cent. over the preceding year. Steps have been taken to bring the service of naval officer Pilots in the Fleet Air Arm into line with ordinary naval specialised service (gunnery, torpedo, etc.), and such officers, provided they remain fit and suitable for service in the Fleet Air Arm, and also willing to serve as Pilots, will in future serve on flying duties for the whole of their time after selection until they reach six years' seniority as Lieutenant-Commander, except for a minimum period of two years' general naval service as Lieutenant or Lieutenant-Commander.

OBSERVER ALLOWANCES.—It was announced in February that Naval Observers holding appointments which do not entitle them to observers' allowance may, if lent for duties involving full flying duties, be credited with observers' allowance at the full rate of 6s. or 4s. a day (according to qualifications) under the ordinary conditions during the continuance of such duties. While this is paid, any other duty allowance is to be discontinued.

AIRCRAFT SPOTTING ESSAY.—The subject of the essay for the award in 1930 of the Henry Leigh Carlsake Prize for Naval Observers is to be "The Development of Aircraft Spotting for the Gunfire of the Fleet." Essays must reach the Admiralty by 1st February. Conditions of the award may be read in the Appendix to the Navy List.

FLYING KIT.—Royal Navy or Royal Marine Pilots may retain their fur-lined caps and mask goggles during their periods of general service or corps duty. The minimum for these periods is two years. Other items of flying clothing are to be surrendered. Under the terms of an Air Ministry order, flying clothing will be available for use during casual or occasional flights.

NEW ZEALAND DIVISION OF THE ROYAL NAVY.

NEW FIRST NAVAL MEMBER.—Commodore Geoffrey Blake, D.S.O., late Chief of Staff to Admiral the Hon. Sir Hubert Brand in the Atlantic Fleet, has been lent to the New Zealand Government as Commodore, 2nd Class, to succeed Commodore G. T. C. P. Swabey, D.S.O., in command of the New Zealand Station, and as First Naval Member of the New Zealand Naval Board, to date 19th July.

ROYAL NAVAL RESERVE.

H.R.H. THE PRINCE OF WALES.—On 19th March, the Prince, as first Master of the Honourable Company of Master Mariners, presided over its third annual banquet at the Guildhall.

ROYAL NAVAL VOLUNTEER RESERVE.

SIGNALS AND WIRELESS SECTION.—A reunion dinner of the R.N.V.R. Signals and Wireless Section was held in London on Saturday, the 27th April, presided over by Lieutenant-Commander J. H. Mather, D.S.O., V.D., R.N.V.R., A number of those present had taken part in the defence of Antwerp.

Mention was made of the fact that about 13,000 members of the Section passed through the School at the Crystal Palace, of whom 500 were lost. A permanent Association is to be formed.

ROYAL MARINES.

HONORARY COLONEL-COMMANDANT.—It was announced on 27th March that the King had approved the appointment of General Sir Alexander R. H. Hutchison, K.C.B., C.M.G., D.S.O., R.M., as Honorary Colonel-Commandant of the Plymouth Division, Royal Marines, to date 12th March, in succession to the late General Sir Charles N. Trotman, K.C.B.

ROYAL MARINE TRANSPORT.—An Order in Council, dated 21st March, was published in the *London Gazette* on 26th March, providing for the appointment of an officer from the retired list of engineer officers of the Royal Navy for duty in connection with the mechanical transport allocated to the Royal Marines, with the title of "Chief Mechanical Officer." The retired pay of such an officer is to be suspended during his service as Chief Mechanical Officer, and the conditions of service generally are to be as for a retired officer voluntarily re-employed in time of peace.

DOCKYARD POLICE.—The task of guarding Sheerness Dockyard passed on 1st April from the Metropolitan Police Force to the new Royal Marine Police. Sheerness is the first yard to be placed under the new force. The staff of the Metropolitan Police consisted of an inspector, a station sergeant, seven sergeants and thirty constables. On leaving, their work was taken over by forty officers and men of the Royal Marine Police (marine pensioners). There will be a saving of between £5,000 and £6,000 a year in the cost of policing the yard. Sheerness Dockyard had been policed by the Metropolitan Force since December, 1860.

DOMINION NAVIES.**ROYAL AUSTRALIAN NAVY.**

NEW FIRST NAVAL MEMBER.—Rear-Admiral W. M. Kerr, C.B.E., has been appointed First Naval Member of the Commonwealth Naval Board, in succession to Rear-Admiral W. R. Napier, C.B., C.M.G., D.S.O., to date 3rd August.

AUSTRALIAN EXCHANGE.—The next exchange of cruisers between the Royal Navy and Royal Australian Navy has been deferred for a further twelve months. The exchange cruisers will leave their respective stations in October, 1930, returning in January, 1932. Approval has been given for one of the ships of the First Cruiser Squadron to be detailed for this service.

NEW AIRCRAFT CARRIER.—The "Albatross," the first aircraft-carrier in the Royal Australian Navy, was commissioned at Sydney on 23rd January, by Captain D. M. T. Bedford, R.N. She is of 5,000 tons displacement, 12,000 horse-power, with geared turbines, and has a designed speed of 21 knots. The armament includes four 4.7 inch and two 2-pdr. guns. Naval and air personnel total 450 officers and men. The aircraft at present carried are six Supermarine amphibian flying boats, launched into flight by a catapult.

ROYAL CANADIAN NAVY.

DESTROYER CRUISES.—Independent cruises have been made during the past quarter, both by the "Champlain" from Halifax and the "Vancouver" from Esquimalt. The former proceeded to Bermuda and was for a time in company with the cruiser "Colombo," visiting Dominica, St. Vincent and Trinidad. She then cruised independently to Barbados and Grenada, and returned to Halifax in April. The Vancouver visited San Francisco in February and San Diego and Magdalena Bay in March.

FOREIGN NAVIES

CHILE.

NEW DESTROYERS.—On 1st March, it was reported that the first two of the six destroyers built for Chile by Messrs. Thornycroft & Co., Woolston, had arrived at Valparaiso, after a successful voyage in heavy weather. These were the "Serrano" and "Orella." The second pair, the "Riquelme" and "Hyatt," arrived at Portsmouth on 16th April on a visit. Six of their officers and sixty petty officers and men were shown over H.M.S. "Nelson," and in the evening a party of officers were guests at dinner of the officers' mess, R.N. Barracks. In a detailed account of the trials of the "Serrano," it was stated in *Engineering* that at full power, the speed under contract conditions was exceeded without unduly forcing the machinery, while the oil consumed on the trials to determine the radius of action was 10 per cent. below that required to give the radius desired.

DENMARK.

SUBMARINE VISIT.—Early in June, the depot-ship "Henrik Gerner" and submarines of the Danish Navy are to pay a visit to Portsmouth. The depot-ship, completed in 1928, has a displacement of 490 tons, an armament of two 3-inch guns, and is propelled by two Burmeister and Wain six-cylinder, four-cycle Diesel engines of 1,000 combined b.h.p., giving her a maximum speed of 15 knots.

FINLAND.

BRITISH NAVAL ADVISER.—Lieutenant Commander (retired) M. C. Despard, D.S.C., has been appointed as Naval Adviser to the Finnish Government, with acting rank of Commander, as from April this year.

NEW VESSELS.—In a message dated 8th February, *The Times* Correspondent at Helsingfors stated that the Finnish Government had placed large orders for

naval armaments with a Swedish firm. It was understood that most of these were connected with two Finnish warships which were being built at Abo, "each of which is to be equipped with four 10-inch guns and secondary armament."

FRANCE.

NEW CONSTRUCTION.

10,000-TON CRUISERS.—A new cruiser of 10,000 tons, was launched at Brest, on 24th April, and named "Marshal Foch." This will be the fifth cruiser of post-Washington design to be put afloat for France; a sixth is projected.

The "Suffren" has now arrived at the stage when she is carrying out speed trials. It is observed that the bridge of this ship is much higher round the tripod mast than in the case of her earlier sister ships.

MINELAYER.—On 10th April the new cruiser-minelayer "Pluton" was launched at St. Nazaire. She is somewhat similar in design to the British "Adventure," but smaller, her displacement being 5,215 tons. She has higher speed, however, her engines of 57,000 h.p., being designed to give her a maximum of 30 knots. The armament includes four 5.4-inch and ten anti-aircraft guns.

FLOTILLA LEADERS.—The three flotilla leaders laid down in 1926, "Lion" "Bison" and "Guepard" are now at the trial stage. At her trials off Lorient at the end of March the "Guepard" was reported to have made a speed of over 38 knots, two knots over her designed speed. This class carry a heavy armament for flotilla leaders, each vessel having five long range 5.5-inch guns behind ample shields. Mountings and supporting bases have been strengthened so that salvo firing may be carried out without fear of straining the hull.

SUBMARINES.—The minelaying submarine "Saphire" was launched at Toulon on 20th December last. The submarines "Vengeur" and "Pasteur" have reached trials stage.

GENERAL.

VOYAGE OF THE "TOURVILLE."—At noon on 5th April, the new cruiser "Tourville," left Brest with the body of the late Mr. Myron T. Herrick, the American Ambassador in Paris. The French Government had offered the services of a warship to convey the remains to New York. Naval and military honours were paid as the coffin was borne on board and on the departure of the cruiser. A British squadron, including the battle-cruiser "Hood" returning from the Mediterranean, fired a salute off Ushant, while passing the "Tourville" in honour of the late Ambassador.

As recorded in the last JOURNAL, the "Tourville" was about to start on a world cruise. During this, she should visit the following British ports: Samoa, Auckland, Wellington; Hobart, Melbourne, Sydney, Port Darwin, Singapore, Madras and Colombo.

GERMANY.

BATTLESHIP CRUISE.—The "Schleswig-Holstein," "Elsass," "Schlesien" and "Hessen" are carrying out a Spring cruise in Spanish waters. They are accompanied by destroyers.

CRUISE OF THE "EMDEN."—Continuing her cruise, the "Emden," the first of the post-war German cruisers, arrived at Constantinople on 11th February.

the first German warship to come to Turkey since the war. The "Emden" visited Mahé, Seychelles, at the end of March, and is scheduled to visit Thursday Island, 14th-15th June; Auckland, 26th June-5th July; Wellington, 6th-12th July; and Suva, 19th-31st July.

U.S. VIEWS ON THE NEW ARMoured SHIP.—A bulletin issued in April by the United States Navy Department at Washington, expressed the view that the new German cruiser "Ersatz-Preussen" is so greatly superior in fighting power to the 10,000-ton cruisers of other nations that it may eventually necessitate the revision of the Washington Treaty rules governing ship design.

The bulletin, compiled by the Engineering Bureau, considers that the cruiser represents "an entirely new departure from current naval design. She is in fact a nondescript type, combining in some degree the offensive and defensive powers of a capital ship with the speed and sea-keeping endurance of a cruiser"; and, for all the saving of 550 tons of weight, her protection is very complete. The cruiser's ability to carry sufficient fuel for a continuous voyage of 10,000 miles at a speed of 20 knots would be almost incredible, it is held, if not vouched for by the German Admiralty. In fighting power, U.S. naval engineers hold that such vessels as these "are greatly superior to the Treaty class 10,000-ton cruiser, they are faster than any existing battleship, and it is difficult to see how any vessel other than a battle-cruiser could deal with them."

A description of the new German ship was given in these Notes for February.

GREECE.

NEW BRITISH MISSION.—The composition of the new British Naval Mission to Greece, the appointment of which was requested by the Greek Government on the expiration of the contract of the present Mission under Captain C. E. Turle, D.S.O., R.N., was announced on 13th April. Captain Turle will be succeeded by Captain G. H. D'Oyly Lyon, R.N. His staff will include Commander R. H. Bevan, from the Naval Ordnance Department; Lieutenant-Commander R. V. Symonds-Taylor, D.S.C., staff officer for operations, First Cruiser Squadron; Lieutenant-Commander H. B. Crane, submarines, who is re-appointed from the former Mission; Commander (E) A. L. P. Mark-Wardlaw, and Commissioned Electrician W. A. Nimmy. The new Mission is due to leave for Athens on 24th May.

COASTAL MOTOR BOATS.—An order for two 55 foot coastal motor boats with a speed of about 40 knots, has been placed with John I. Thornycroft & Co., Ltd., who recently built similar craft for Holland.

ITALY.

NEW FLOTILLA LEADERS.—On 9th January, the flotilla leader "Ugolino Vivaldi" was launched at Genoa. She is the third of a flotilla of twelve vessels laid down in 1927. They are of 1,968 tons, or 2,150 tons with full load, and have a length of 354 feet. With geared turbines of 50,000 horse-power, their designed speed is 38 knots, or three knots faster than that of any other flotilla leader in the Italian Navy. The armament will include six 4.7-inch guns in twin turrets, three smaller anti-aircraft guns, and six torpedo tubes in triple deck mountings. A fourth ship, the "Leone Pancaldo," was launched at the same port on 6th February.

DESTROYER LOSS.—The destroyer "Muggia," while on passage from Amoy to Shanghai, ran on to the reef at Finger Rock, on the night of 25th March, during thick fog, and sank. Japanese and Chinese vessels picked up her crew, and they were transferred later to the cruiser "Libia."

RECORD SUBMARINE DIVE.—In March last, the Italian submarine "Goffredo Mameli," made what is claimed as a record performance by diving in the Gulf of Spezia, to a depth of 117 metres (380 feet), where she remained for twenty minutes, satisfactorily carrying out manœuvres and tests, after which she returned to the surface without any untoward incident.

JAPAN.

NEW BUDGET.—On 13th March, the Japanese Budget was passed by both Houses of Parliament. Out of a total of 1,752,000,000 yen (about £175,000,000), it provides 268,000,000 yen (about £26,800,000) for the Navy, and 231,000,000 yen (about £23,100,000) for the Army.

NEW CRUISERS.—Revised particulars concerning the first four Japanese 10,000-ton cruisers, published in the official Return of Fleets, show that these ships, the "Nachi" class, will have geared turbines of 100,000 h.p., not 130,000, giving a designed speed of 33 knots. The anti-aircraft armament will include six (not four) 4.7-inch guns.

The second group of four ships, the "Takao" and "Atago," laid down in 1927, and "Chokai" and "Maya," laid down in 1928, will have only four 4.7-inch guns, and eight instead of twelve torpedo tubes.

SPAIN.

NEW PROGRAMME OF CONSTRUCTION.—The naval programme of Spain for the next few years was outlined by the Minister of Marine on 11th April. Eight destroyers are to be laid down this year of higher tonnage than the "Alsedo" class, of 1,145 tons, but with the same designed speed of 34 knots. Of the flotilla leaders of the "Churruca" type, of 1,600 tons, one is in service, three more are on the stocks, and two more will be begun early next year to replace those sold to the Argentine Government. Twelve submarines, of 1,000 tons, are contemplated, but construction will be delayed in order to have the advantage of the most modern design and to make them a decided improvement upon those at present in service. Of the "C" Class submarines, of 900 tons surface displacement, of which two are already in commission, and others under trial, two more will be completed in the course of the present year, and the remaining four early next year.

PROMOTION BY SELECTION.—The Minister of Marine has introduced a bill which will provide for promotion by selection with a view to weeding out many of the older naval officers. Promotion to the ranks of Commander and above will in future be entirely by selection, as will a large proportion of the promotion to the junior ranks.

The system of selection for promotion to the rank of Captain is that junior Captains forming the last third of the list and Senior Commanders forming the first third of their list, will vote for those amongst the latter whom they consider most fitted for promotion. The results are submitted to the Minister, who is guided by them in making his selections. To safeguard the system, any officer

who, on a scrutiny of the votes, is found to have voted for an officer who obtained less than 20 per cent. of the possible votes, will be subject to severe penalties.

The age limits for senior officers are now fixed at: Vice-Admirals 64, Rear-Admirals 62, and Captain 58 years.

UNITED STATES.

NEW CRUISER BILL.—The bill for the construction of fifteen 10,000 ton cruisers and one aircraft carrier has received the final assent of the President. It provides money to enable the first five cruisers to be commenced before 30th June next, and a further five cruisers and the aircraft carrier prior to 30th June, 1930. The new cruisers will be of the same type as the "Chester" class, now building. The aircraft carrier will be of 13,800 tons only.

NAVAL ESTIMATES.—The amount of £74,000,000 for the current naval estimates shows little change from last year, but unless naval programmes are modified, it is probable that coming years will require a considerable increase of expenditure.

The Navy Department asked for an additional 3,500 men, but had to be content with only 500.

BATTLESHIP MODERNISATION.—The Bill authorising an appropriation of 14,800,000 dollars (£2,960,000) for the modernisation of the battleships "Pennsylvania" and "Arizona" was passed on 9th February by the Senate.

CRUISERS LAUNCHED.—The 10,000-ton cruiser "Salt Lake City" was launched at Camden, New Jersey, on 19th January, and her sister-ship, the "Pensacola," at the New York Navy Yard on 24th April. These are the first two of the eight cruisers authorised by an act of 18th December, 1924. The other six, laid down in 1928, have been named "Northampton," "Chester," "Chicago," "Houston," "Augusta" and "Louisville."

MANNING PLAN.—Under the Force Operating Plan for the fiscal year 1930, approved by Admiral Hughes, Chief of Naval Operations, on 29th March, states the *Army and Navy Journal* (Washington), there will be 16 battleships in commission, with the "Arizona" and "Pennsylvania" in reduced commission; 100 destroyers in commission, 6 fleet submarines, 46 first-line submarines and 29 second line; 15 light cruisers, first line, and 3 second line; and 2 aeroplane carriers, first line, and one second line. In all 320 ships will be in active commission, requiring a personnel of 92,186 enlisted men. With the authorised strength for 1930 far below this number, it will be necessary to retain the reduced complement status now prevailing. This ranges from 100 per cent. of the submarine force, and a few ships in Central American waters, to 72 per cent. The battleships will continue to operate on an 86 per cent. basis, and the cruisers slightly below that.

SUBMARINE SAFETY DEVICE.—The U.S. Navy's new life saving device for use in submarines was demonstrated with success on 5th February at Key West, when by means of it Lieutenant C. B. Monson and E. Kolinski, an enlisted man, escaped without injury from a submarine lying 40 feet below the surface. The vessel used was the repaired "S.4" in which forty officers and men lost their lives in December, 1927. She was submerged on 5th February with only Lieutenant Monson and Kolinski on board. Using oxygen-inflated masks, they got out of the conning tower through the safety hatch and rose to the surface. Descending again, they re-entered the submarine, and escaped from the motor room.

NAVAL AIR SERVICE.

AIRCRAFT CARRIERS.—During discussion of the appropriations bill attention was drawn to the heavy maintenance cost of the new aircraft carriers "Saratoga" and "Lexington," and it was suggested that one of them should be withdrawn from service. This, however, met with strong opposition from the Navy Department, who said that both vessels were indispensable, and that the matter might be reconsidered when further carriers are completed.

NAVAL AIRCRAFT PILOTS.—This financial year is the fourth year of the "1,000 useful planes" programme, authorised in 1926. By 30th June, 1930, there should be 910 useful planes on hand and 208 on order; additional planes will be provided for ships now building. There is, however, difficulty in providing pilots to keep pace with the construction of aircraft. At the end of last year there were 695 pilots, including 185 enlisted men. It is the policy of the Navy Department to increase the enlisted pilots up to 30 per cent. of the total, and also to employ reserve pilots on active duties for periods of one year, the number to be so employed during the coming year being 75.

ARMY NOTES

REGULAR FORCES

HOME

EXTRACTS FROM THE MEMORANDUM OF THE SECRETARY OF STATE FOR WAR RELATING TO THE ARMY ESTIMATES FOR 1929 :—

The Army Estimates for 1929 are less by £505,000 than those for 1928, the net total being £40,545,000.

The total of Vote A (Numbers) is 150,500, or 3,000 less than in 1928, when the Vote included 1,500 Indian troops employed by the Air Ministry in the Middle East which are now to be withdrawn.

The decrease of 1,500 in the War Office sphere is due to—(a) the smaller number of additional troops employed in China ; (b) the disbandment of the West African Regiment and the reduction of the Sierra Leone garrison ; (c) the mechanization of another Field Brigade, Royal Artillery ; (d) the abolition of horse transport companies, Royal Army Service Corps ; (e) economies resulting from the systematic examination of all establishments.

The Air Ministry have now assumed complete control at Aden, and the infantry battalion has been withdrawn to Malta.

The conversion of the 11th Hussars into an armoured car regiment has been completed, and a similar reorganization of the 12th Royal Lancers will be accomplished. These changes will permit of the disbandment of one armoured car company of the Royal Tank Corps, but the *personnel* thus made available will be added to the Royal Tank Corps Centre. The policy of mechanization will continue to be applied in the other arms.

Inclusive of British troops in India, the strength of the Army at the beginning of the financial year will be approximately 1,000 below establishment. The numbers due to leave the Colours during 1929 are, however, some 2,000 more than in 1928.

Recruiting for the Regular Army has been better than during the two preceding financial years, and on 31st March, 1929, there should be an increase of over 3,000 on the 1928 figures, but, as most of these have gone to arms other than infantry, whose intake will only be greater by some 800, the heavy run out during the next few years will call for a maintenance of this improvement.

The height standard for infantry of the line was reduced from 5 ft. 3 in. to 5 ft. 2 in., in the middle of December last.

The fact that at the recent examination of boys for training as apprentice tradesmen there have been only two candidates for each vacancy, shows that the advantages of these schools are insufficiently recognized, but a prospect of keener competition in future is indicated.

The recruiting organization was revised in April, 1928, with satisfactory results. Commanders of depots and Territorial Adjutants have also been incorporated into the active machinery so that the number of agencies has been increased although the cost of the system as a whole has been reduced.

Army and Supplementary Reserves.—The strength of the Army Reserve on 1st April will be approximately 109,000, an increase of some 14,000 during the past year, and will rise by a further 15,000 during 1929, owing to the abnormally small numbers due to leave the Reserve in these two years.

The establishment of the Supplementary Reserve has been slightly increased to meet the minimum requirements in technical *personnel* of the Expeditionary Force as now organized. In 1928 recruiting did not reach expectations, and the strength of the Supplementary Reserve on 1st April, 1929, will have fallen to about 14,000. Special efforts are to be made to bring the strength considerably nearer the establishment of 23,000.

Vocational Training and Education.—Of 1,598 soldiers who passed through the Army Vocational Training Centres last year, 81.5 per cent. secured employment immediately on completion of their training. The corresponding figures for 1927 were 1,414 and 80 per cent.

The scheme under which 500 soldiers serving in India are to come home annually for courses of Vocational Training at centres in this country, began during the present trooping season and is working well.

The only scheme for the settlement overseas of service families is one under which the Canadian Government undertake to place on farms in Canada 50 service and ex-service families. Training for this scheme, in which the British Legion is co-operating, began last November.

Additional farm land has been acquired at Chisledon and is now being utilised for the instruction of unemployed miners, in conjunction with and at the charges of the Ministry of Labour, with a view to their settlement overseas; nearly 100 are already at this centre, where there is accommodation for 300 more.

As regards general education, endeavours are made, with a substantial measure of success, to educate every soldier up to a standard equivalent to the highest attainment of an elementary school.

Health of the Army.—The health of the Army throughout the year was very satisfactory.

Consequent on the reduction of the number of troops in China and West Africa and as a result of reorganization at certain other stations, it has been possible further to reduce the number of equipped beds in military hospitals by 370.

Discipline.—The discipline of the Army remains at a high standard and it has become possible to make some reductions in the staff concerned with discipline.

Territorial Army.—The strength of the Territorial Army (exclusive of Permanent Staff) on 1st January, 1929, was 6,932 officers and 132,444 other ranks, an increase of 108 officers and 121 other ranks as compared with 1st January, 1928. The number of recruits in 1928 was 29,193, against 22,934 in 1927.

The reduction by 2½ per cent. made last year in grants to County Associations for general administrative purposes has been repeated, and the reorganizations of establishments have made possible a lower grant in respect of the upkeep of clothing and personal equipment.

Camp was attended by 5,882 officers and 117,449 other ranks (exclusive of Permanent Staff); the corresponding figures for 1927 were 5,815 and 116,749.

The Cadet Force on 31st October, 1928, consisted of 935 companies with a strength of 2,348 officers and 49,014 other ranks as compared with 953 companies, 2,450 officers and 47,391 other ranks in 1927; 1,201 officers and 19,488 other

tanks attended camp in 1928, and 1,848 cadets or ex-cadets are known to have joined His Majesty's Forces within the twelve months ending 31st October, 1928.

Training.—There will be no Army Manœuvres this year. Divisional training will, however, be carried out in the Aldershot and Southern Commands, culminating in some exercises specially designed to test experimental infantry brigades which will be formed to determine the future composition of these formations in the light of the lessons learned from the work of the Experimental Armoured Force. This force as such will not be maintained during the forthcoming training season, but its *personnel* and units will be utilised in connection with the above-mentioned schemes. The War Office will also conduct a series of exercises without troops for the investigation of problems arising from the progress of mechanization. Special attention will be devoted to the mechanical training of all ranks.

COST OF EXTRA TROOPS.

The following Supplementary Estimates have been presented to date in respect of the excess cost involved in the employment of extra troops in China :—

Year ended 31st March, 1927	..	..	..	..	£ 950,000
Year ended 31st March, 1928	..	..	..	..	3,050,000
Year ending 31st March, 1929	..	..	..	..	565,000
					<hr/> 4,565,000
Less savings in aid	..	..	..	..	450,000
					<hr/> £4,115,000

APPOINTMENTS AND PROMOTIONS.—His Majesty the King has approved the following appointments : Brigadier R. G. Finlayson, C.M.G., D.S.O., Commander, Royal Artillery, 3rd Division, Bulford (in succession to Colonel F. W. H. Walshe, C.B., C.M.G., D.S.O., retired), and Brigadier E. N. Broadbent, C.B., C.M.G., D.S.O. (in succession to Major-General W. W. Pitt-Taylor, C.B., C.M.G., D.S.O.) to be Aides-de-Camp to the King. Brevet-Colonel The Lord Vivian, D.S.O., T.D., 4th/5th Battalion (Territorial) The Duke of Cornwall's Light Infantry, and Colonel C. H. Pank, C.M.G., D.S.O., T.D., Territorial Army, to be Additional Aides-de-Camp to the King.

Colonel T. G. F. Paterson, D.S.O., M.B., Indian Medical Service, to be Honorary Physician to His Majesty ; Colonel E. F. Mackie, O.B.E., M.B., F.R.C.P., F.R.C.S., V.N.S., to be Honorary Surgeon to His Majesty.

Lieutenant-General Sir William Thwaites, K.C.B., K.C.M.G., to be Colonel Commandant, Royal Artillery. General The Earl of Cavan, K.P., G.C.B., G.C.M.G., G.C.V.O., G.B.E., to be Colonel, The Bedfordshire and Hertfordshire Regiment ; Lieutenant-General Sir Reginald Stephens, K.C.B., C.M.G., to be Colonel Commandant, 2nd Battalion The Rifle Brigade ; Major-General E. Evans, C.B., C.M.G., D.S.O., to be Colonel, The Wiltshire Regiment ; Lieutenant-General Sir Cameron D. Shute, K.C.B., K.C.M.G., to be Colonel Commandant, 1st Battalion, The Rifle Brigade (Prince Consort's Own) ; and Major-General J. C. Harding Newman, C.B., C.M.G., to be Colonel, The Essex Regiment ; Major-General Sir Arthur L. Lynden-Bell, K.C.B., K.C.M.G., retired pay, to be Colonel, The Buffs (East Kent Regiment).

The following appointments have been approved : Major-General F. A. Wilson, C.B., C.M.G., D.S.O., to be Inspector of Royal Artillery, War Office,

in succession to Major-General E. H. Willis, C.B., C.M.G.; Major-General B. R. Kirwan, C.B., C.M.G., to be Major-General, Royal Artillery, Army Headquarters, India, vice Major-General W. H. Kay, C.B., D.S.O., deceased; Colonel C. W. Macleod, C.M.G., D.S.O., A.D.C., to be Inspector of the Royal Army Service Corps, War Office, in succession to Major-General W. K. Tarver, C.B., C.M.G.; Colonel J. Baker, C.B.E., Royal Army Ordnance Corps, to be Inspector of Army Ordnance Services, War Office, in succession to Colonel (temporary Brigadier) P. W. T. H. Wortham, C.B., Royal Army Ordnance Corps. Major-General E. H. Willis, C.B., C.M.G., to be Lieutenant-Governor and Commander of the Troops in Guernsey and Alderney district, vice Major-General Lord Sackville, K.B.E., C.B., C.M.G. Major-General The Lord Ruthven, C.B., C.M.G., D.S.O., and Major-General E. H. Willis, C.B., C.M.G., have been permitted to exchange the posts for which they had been designated as Lieutenant-Governors of Jersey and Guernsey respectively. General Willis will succeed the Hon. Sir Francis Bingham in Jersey on 26th May, while Lord Ruthven will succeed Lord Sackville in Guernsey on 5th June.

The following Promotions have taken place: Brigadier F. A. Wilson, C.B., C.M.G., D.S.O.; Brigadier C. H. T. Lucas, C.B., C.M.G., D.S.O., to be Major-Generals.

The following Promotions will take place in the near future: Major-General A. E. Wardrop, C.B., C.M.G., to be Lieutenant-General. Colonel O. H. Delano-Osborne, C.M.G.; Brigadier R. J. T. Hildyard, C.B., C.M.G., D.S.O.; Colonel C. R. Newman, C.M.G., D.S.O.; Brigadier Sir R. S. May, K.B.E., C.B., C.M.G., D.S.O.; Colonel F. J. Marshall, C.B., C.M.G., D.S.O., to be Major-Generals.

THE CHINA COMMANDS.—The North and South China Commands have been amalgamated. Major-General A. E. Wardrop, C.B., C.M.G., lately commanding the British troops in North China, has returned home. The combined Command has been assumed by Major-General J. W. Sandilands, C.B., C.M.G., D.S.O., commanding at Hong-Kong. Major-General Sandilands remains at Hong-Kong and receives an augmented staff. The Shanghai area is now commanded by Brigadier O. C. Borrett, C.B., C.M.G., C.B.E., D.S.O., A.D.C., and the Tientsin area by Brigadier R. M. Heath, C.M.G., D.S.O.

MOTTO OF THE ROYAL CORPS OF SIGNALS.—His Majesty the King has approved of the Royal Corps of Signals being permitted to adopt the motto "CERTA CITO."

CHANGES OF DESIGNATION.—H.M. the King has approved of the following changes in the designations of Royal Engineers (Transportation) Units of the Supplementary Reserve:—

<i>Present Title.</i>	<i>New Title.</i>
No. 1 (London & North Eastern) Railway Platelaying Company.	No. 1 (London & North-Eastern) Railway Construction Company.
No. 2 (Great Western) Railway Platelaying Company.	No. 2 (Great Western) Railway Construction Company.
No. 1 Railway Bridging Company.	No. 3 (Great Western) Railway Construction Company.
No. 2 (London, Midland & Scottish) Railway Workshop Company (Base). Headquarters, Railway Stores Depot.	No. 1 (London, Midland & Scottish) Railway Workshop Company. Headquarters, Railway Stores Group.

No. 25 Company, Royal Army Service Corps has been converted into a mechanical transport company.

DISBANDMENTS.—H.M. the King has approved of the disbandment of the under-mentioned units :—

No. 3 (London & North-Eastern) Railway Operating Company.

No. 4 (Great Western) Railway Operating Company.

No. 1 (London, Midland & Scottish) Railway Workshop Company (Advanced);

also of the :

12th Armoured Car Company, Royal Tank Corps.

CONVERSION.—H.M. the King has approved of the conversion of the 7th and 23rd Heavy Batteries, Royal Artillery, into the 7th and 8th Anti-Aircraft Batteries, Royal Artillery, respectively.

INSPECTION OF THE GRENADIER GUARDS.—To mark the anniversary of his completing twenty-five years as Colonel of the Grenadier Guards Field-Marshal H.R.H. the Duke of Connaught will hold an inspection of the Grenadier Guards on the Horse Guards Parade on 16th May. All three battalions of the regiment will take part in the ceremony, the 3rd Battalion, stationed at Aldershot, parading with the 1st and 2nd Battalions, stationed in London.

THE TROOPING OF THE COLOUR.—The Trooping of the Colour by the Brigade of Guards on the Horse Guards Parade will take place this year on Monday, 3rd June, the day appointed for the celebration of His Majesty's birthday. Field-Marshal H.R.H. the Duke of Connaught, Colonel the Grenadier Guards, will take the salute.

SERVICE DRESS CAP FOR GENERAL OFFICERS.—A khaki service dress cap has been approved for wear in service dress by general officers, brigadiers and substantive colonels, on active service, annual training, and manœuvres. It is of similar pattern to that of the existing service dress cap, except that the buttons are gilt instead of bronze while a coloured band and badge as authorized for the forage cap is added.

CADETSHIPS FOR ARMY TRADESMEN.—Five Cadetships at the Royal Military Academy and the Royal Military College will be open annually by competition to selected soldiers who have been trained as apprentice tradesmen at the Army Technical School (Boys), Chepstow; School of Electric Lighting, Gosport; Military College of Science, Woolwich; School of Military Engineering, Chatham; Signal Training Centre, Catterick; Royal Army Ordnance School of Instruction, Hilsea.

Candidates must qualify at the Army Entrance Examination; be 18 and under 19 years of age; be in possession of at least a 1st Class Certificate of Education; be specially recommended by the Commandant of the establishment at which they have been trained; and be approved after interview by a Selection Board. Selected Cadets will be trained under the same financial conditions as apply at present to N.C.O. Cadets.

TERRITORIAL ARMY

STRENGTH.—During March 3,105 recruits were finally approved for service in the Territorial Army; the total number approved during the first six months of the present recruiting year being 11,761. In March, Scotland led the way with 817 recruits, followed by the Northern Command, 668; the Western Command, 541; the Southern Command, 416; the Eastern Command, 363; the London District, 300.

The total Territorial strength, exclusive of permanent staff is now 6,658 officers and 130,998 other ranks.

THE "DARTMOUTH CUP" COMPETITION.—For 1928, the award was made for proficiency of yeomanry, artillery and infantry units in signalling, the proficiency of each unit competing being assessed by means of a "figure of merit" based on the results of the annual classification of the unit signallers.

The 64th (7th London) Field Brigade, R.A., and the 4th Battalion, Northamptonshire Regiment, tied for the first place with the figure of merit, 99.7.

The following units had a figure of 80% or over; 11th (H.A.C. and City of London Yeomanry) Brigade R.H.A., 99.4; The Duke of Lancaster's Own Yeomanry, 99.3; 16th London Regiment (Queen's Westminster and Civil Service Rifles), 99.2; North Somerset Yeomanry, 97.8; 10th Battalion King's Regiment, 83.9; 90th (1st London) Field Brigade, R.A., 83.3; 5th Somerset Light Infantry, 83.2; 92nd (5th London), Field Brigade, R.A., 82.9; and 8th Battalion Middlesex Regiment, 80.3.

TERRITORIAL ARMY CADETS: LUCAS-TOOTH SHIELD.—The 2nd Cadet Corps, 4th Battalion, Somerset Light Infantry (Lewisham School), has qualified for the award of the Lucas-Tooth Aggregate Shield for 1928-29 as the Company adjudged to be the best in the United Kingdom in all the competitions open to Cadets, viz.: The King's Shield (shooting), Prince of Wales' Shield (boxing), Lucas-Tooth County Competition (general efficiency within the County), and Lady West Memorial Shield (physical training), competitions. The units which scored an aggregate of over 300 points are as follows:—

2nd Cadet Corps, 4th Battalion, Somerset L.I. (Lewisham School). (Winners)	524 points.
1st Cadet Battalion, London Regiment, "The Queen's"	501 "
1st Manchester Cadet Battalion, Jewish Lads' Brigade (Holders)	416 "
Deaf and Dumb School Company, Newcastle Cadet Battalion, Church Lads' Brigade (K.R.R.C.)	415 "
Saltersford School Cadet Corps	406 "
Magdalen College School (Brackley) Cadet Corps	370 "
"C" Company, 1st Cadet Battalion of Cornwall (Cathedral School, Truro)	342 "

DOMINION FORCES

REGIMENTAL ALLIANCES.—H.M. the King has approved of the Saskatchewan Mounted Rifles, Non-Permanent Active Militia of Canada, being allied to the 9th Queen's Royal Lancers. The Ceylon Mounted Rifles to the 17th/21st Lancers. The New Zealand Army Pay Corps to the Royal Army Pay Corps.

NEW AUSTRALIAN MILITARY REPRESENTATIVE.—Major-General Julius Henry Bruche, C.B., C.M.G., Australian Staff Corps, has been appointed Senior Officer representing the Military Board in the Military Section of the High Commissioner's Office, London, and Representative of the Australian Section of the Imperial General Staff at the War Office for the term of two years. General Bruche began his service in the 1st Battalion, Australian Infantry, in 1891, and transferred to the Permanent Staff in 1898. He saw active service in South Africa from November, 1899, to April, 1900. During the Great War he was first A.A.G., 1st Military District, Australia, then Commandant, 5th Military District, and, finally, A.A. and

Q.M.G., 5th Division, A.I.F., from December, 1916, to the end of the war. Since then he has held many commands in Australia, and in June, 1927, was appointed Adjutant-General and 2nd Military Member, Military Board, Army Headquarters, Melbourne.

FOREIGN

(Published by permission of the General Staff.)

FRANCE.

RESIGNATION OF M. STEEG.—M. Steeg, the Resident General of French Morocco, resigned his post on 2nd January, 1929. The reason given for this sudden decision is the passage through the French Chamber of a recent enactment to the effect that Members of Parliament may not hold paid office longer than a period of six months, and may not be re-appointed immediately. The telegram announcing the resignation said that the heavy responsibilities attaching to his political position (as Senator for the Seine Department) would prevent him from remaining until the normal expiry of his mission. He had been Resident General since the departure of Marshal Lyautey in October, 1925.

M. Lucien Saint, Resident General in Tunisia succeeds M. Steeg in Morocco.

On vacating his post, M. Steeg made the following statement with regard to the situation in Morocco and with special reference to the undertaking of a military expedition in the Tafilelt :—

The policy of pacification progresses with a continuity based on self-confidence. The Moroccan incident of Oued-Zem, the tragic Algerian ambush of Colomb-Bechar, in which General Clavery lost his life, constitute serious acts of banditism which call for the severest punitive measures. But it would be a grave error to attribute to these isolated incursions of plunderers the interpretation of a political tendency: the professional touch in these attempts at rapine only emphasizes more clearly the immense work of penetration accomplished since the sanguinary days of 1925, when the dissidents attained the very walls of Fez.

It was the year 1926 which, by the reduction of the *tache de Taza*, marked the end of the Rafaine expedition; I prefer not to remind you of what it cost in human lives and millions.

In 1927, General Vidalon cleared the neighbourhood of Ouezzan where the most perfect tranquility has since reigned.

In 1928, the tribes of the Ida or Tanam sent in their submission, as well as the numerous tribes to the south of Agadir and, finally, we occupied points of essential importance dominating the famous redoubt of Oued el Abid, which soon made its gradual investment possible.

In a more general manner, during these three years, more than 40,000 families, won over by the prestige of France, the force and generosity of our pacificatory action, came over to us.

Undoubtedly a few dangerous centres still exist. Our troops are obliged to mount a vigilant guard against the rebel bastion of Tadla, and some of our Algerian friends at times reproach us with not having organized a vast operation in the region of the Tafilelt. That there is an abscess to be cut out I do not dispute.

But may I be allowed to invoke eight years of North African life to recall to those who may be tempted to forget it, that operations of this type can only be undertaken when both abundant resources in men, equipment and even money are available for carrying them out. Moroccan history has retained too many recollections of those advances which only end in the multiplication of advanced posts exposed to continual threats of being surrounded.

It cannot be too often repeated that, in Morocco more than anywhere, to retreat after having advanced involves a double set-back, and nothing can justify an advance, if there is no certainty of consolidating it and definitely guaranteeing the conquered territory. Such operations demand a long and methodical preliminary preparation. It is essential to make them profitable, and at the same time safeguard human lives, to prepare our action by the perfecting of vast plans of railway communication which create an effective solidarity between the different elements of our North African possessions. This is the end for which we, my colleague and friend, M. Bordes, and myself, have worked incessantly.

It is also essential to obtain the renewal of certain offensive and defensive means, often already obsolete, and obtain that mobility in inter-communication, that agility of the security units, which can only be visualized by the combined employment of armoured cars, guns and aircraft.

It is only after having elaborated and set working a sound organization of all these means of penetration that an administrator, worthy of the name, can devote himself to police tasks, of which it may be said that they are successful if they do not involve those losses in human lives which are irreparable to a country, as in the case of France, deprived by the last war, of its most vital forces.

OPENING OF THE BROAD GAUGE RAILWAY FROM CASABLANCA TO MARRAKESH.—The new line completes the normal gauge system from Fez via Meknes, Kenitra, Rabat and Casablanca to Marrakesh. When the line, now under construction but not due for completion till about seven years hence, between Fez and Oudjda has been made, French North Africa will have been equipped with a normal gauge system extending from the further side of Tunisia to the chief centre in Southern Morocco. The economic and strategic importance of this can hardly be exaggerated, especially if it be looked at in conjunction with inland communications already in existence, or in prospect, and the efforts which are now taking shape to bring a Trans-Sahara railway within the realms of practical politics.

GERMANY.

CAREER OF CANDIDATES FOR COMMISSION IN COMBATANT UNITS.—As Germany possesses no cadet schools corresponding to the Royal Military Academy, Woolwich, or the Royal Military College, Sandhurst, candidates for commission have to serve in the ranks for a period of from four to six years, the time depending on certain educational qualifications.

They report to the regimental commanders of the units they wish to join during the normal recruiting period of 1st April to 1st October. The regimental commander, after a careful examination of each individual case, selects those he considers most suitable, and forwards their names and full particulars to the Ministry of Defence. In January, candidates are informed whether they have been selected or not. The selected candidates enlist into the Reichsheer as ordinary privates on a twelve years' engagement.

Candidates in possession of the leaving certificate of a "higher school with nine classes" undergo training according to the following table:—

1st year.	3 months	..	With regimental training unit.
	9 months	..	With regiment in the ranks.
2nd year.	3 months	..	With regiment in the ranks.
			Junior ensigns examination and promotion to junior lance-corporal.
	3 months	..	With regiment in the ranks as lance-corporal.
	6 months	..	Infantry training school, 1st course. Promotion to N.C.O.
3rd year.	6 months	..	Infantry training school, continuation of 1st course. Ensigns examination and promotion to ensign.
	6 months	..	Training school of candidate's own arm, 2nd course.
4th year.	6 months	..	Continuation of 2nd course. Officers examination and promotion to senior ensign. Service with troops. Selection as officer. Promotion to 2nd lieutenant.

Candidates not in possession of the necessary higher school leaving certificate, cannot take their junior ensigns examination until their fourth year. In the meantime, they have to pass certain examinations on general subjects, for which they have to prepare by themselves, though the educational personnel attached to units have to give them any help and advice they can.

As soon as they have passed the junior ensigns examination they continue the course as laid down in the above table, completing it in their sixth year of service.

ITALY.

SITUATION IN LIBYA.—About the end of November, 1928, a strong band of Senussi raiders from the Harugi Mountains (immediately south of Zella) appeared near the camps of the submissive Arabs around Marsa Brega and drove off nearly all the livestock. The Government authorized these Marsa Brega Arabs to go in pursuit and they caught up the rebels at the Harugi Mountains and inflicted heavy losses on them taking 800 camels, some arms and a few prisoners, with whom they returned to Agedabia.

On 8th December another band, also from the Harugi Mountains, made a raid near Agedabia and carried off some livestock. They were counter-attacked by Eritrean troops, who recovered the livestock and inflicted losses. The Eritreans lost five killed and a few wounded.

On 20th December, Italian troops at Sahabi encountered a rebel band coming up from the south to join the rebels in the Jebel. The rebels were defeated, losing sixty killed. Following this a sweep of the Jebel was carried out, and ended with an encounter in which the rebels lost twenty-two more killed.

The 15th Eritreans and the 2nd Armoured Car Squadron then pushed on south, as early in January a strong band of about 500 rebels had been reported as making for the Jebel from Cufra. At the same time the 16th Eritreans were placed in lorries and, with a section of armoured cars and a camel corps squadron, were hurried to head off the rebels; this latter force encountered the rebels early on 20th January at Bu Atla (just north of Gialo). After four hours fighting the 15th Eritreans, with their armoured cars, came up in rear of the rebels, who were severely defeated, losing 226 killed, 173 rifles, several prisoners and many loaded

camels, tents and material. The pursuit of the fugitives is being vigorously carried out. The Italian losses were one lieutenant of the 16th Eritreans, twelve native troops killed and twenty-one wounded.

These series of actions are interesting because they show that, while the residents in the occupied zones may have submitted, the Senussi to the southward have not done so.

SPAIN.

REVOLT AT CIUDAD REAL.—The following is considered a reliable account of the actual events which took place at Ciudad Real, a small town 200 miles south of Madrid and to the east of the main line.

At 3.30 a.m. on 29th January, the 1st Light Artillery Regiment left the barracks under the commanding officer. The second in command went direct to the barracks of the Guardia Civil and threatened the lieutenant-colonel commanding, who surrendered and gave up the arms of the men under his command. The artillerymen then proceeded to bring their guns into the street, and placed them in tactical positions both in and outside the town. They subsequently seized the railway station and placed sentries on all banks in the town. An artillery major interviewed the secretary of the civil government and informed him that he, the major, would henceforth take over the duties of governor. A captain was also installed as mayor of the town. Trains were allowed to enter but not to leave the town, and soon that procedure was taken with other vehicles. Officers visited the principal business houses and stated that they would be responsible for law and order, so business could proceed as usual. The railway employees, however, refused to continue to work.

At 5.30 p.m. aeroplanes flew over, dropping typewritten broadsheets which read as follows:—

"The whole of Spain is quiet. Give it up and go back to barracks. If not, to-morrow you will be bombarded."

Half-an-hour afterwards the regiment returned to barracks with their guns.

The civil authorities immediately retook control, and telephone and telegraph communication was re-established. The officers remained in barracks "in a voluntary state of arrest."

Events reported prior to the outbreak.

(a) *First news.*—News of the coming revolt reached the authorities in Madrid about 10 p.m. on the 28th January, and preparations were made during the evening for the assembly of motor lorries to convey four battalions of infantry. A cavalry detachment from Alcala de Henares was also warned to stand by. The aeroplane flight referred to above was also warned.

(b) *Details of the supposed plot.*—The outbreak at Ciudad Real was apparently one of a series which had been planned to take place simultaneously at the following places:—Barcelona, Cartagena, Valencia, Cadiz, Gijon, and Corunna. The arrangements are reported to have been made by a general whose name is not known. He apparently visited the first three places, and was heard of at Ciudad Real on the night of the 28th. He is believed to have escaped into Portugal. The order countermanding the revolts in these various places apparently failed to reach Ciudad Real, which is a somewhat isolated town off the main line.

Measures taken by the Government.

The cavalry detachment referred to above from Alcala de Henares was countermanded. The flight of aeroplanes carried out their rôle of dropping pamphlets, and the four battalions of infantry left in lorries in the afternoon of

the 29th, arriving the same evening. They were under the command of Brigadier-General Orgaz, who was placed in charge of the situation. All troops, with the exception of one infantry regiment and a detachment of engineers, returned to Madrid on the 1st and 2nd February.

It appears clear that Señor Sanchez Guerra arrived with his son at Valencia on the morning of the 30th.

Señor Sanchez Guerra is a septuagenarian politician who was for a short time conservative prime minister in 1922. Some years ago his sentiments with regard to General Primo became so vehement that he voluntarily exiled himself and has lived in France for the last five years. Rumour names him as the leader of the conspiracy. It was further reported that he came by a small vessel from Port Vendée and was considerably delayed. It is surmised that this delay was responsible for the counter-order of the plots at the other towns. It seems that Sanchez Guerra, although arriving two days overdue, proceeded to the Captain-General, Castro Girona, who appears to have been involved in the plot, and urged him to carry on the movement. On the Captain-General appearing to disagree, Sanchez Guerra is reported to have directed his activities to the 5th Artillery Regiment where the officers received him enthusiastically. The colonel of the regiment was against taking any action, and after discussion with the officers and an interrupted address to the men, Señor Sanchez Guerra gave himself up to the authorities in spite of the vain attempts to persuade him to escape while he was yet able to do so. As the leader of the movement has now, according to these reports, acted somewhat extravagantly, as the Spanish saying has it, "as a Caballero," it is possible that the trouble referred to at Valencia on 2nd February may have had some re-action in his favour.

Lieut.-General Castro Girona was relieved of his appointment of Captain-General of the 3rd Military Region of Valencia which he had held since March, 1928, the reason given being "not having been sufficiently energetic in his duties of suppressing demonstrations against the Government." This officer had a most distinguished career in active operations in Morocco for a period of fifteen years, the most notable of which being during the withdrawal from Sheshewan in 1924.

There appears to be no doubt that the Government was well informed beforehand of the proposed revolt, and the measures taken in the isolated case that arose seems to have been easily successful. The time might also be considered as well chosen by the conspirators, for the King was away in the south shooting, and General Primo de Rivera was reported as being ill. Moreover, many prominent officials in the provinces were away from their posts.

On 19th January, 1929, a Royal Decree was issued whereby the Corps of Artillery was dissolved.

In a semi-official note published simultaneously with the Royal Decree disbanding the officers of the artillery arm, the Government gives as its object in taking this latter step that of rapidly cleansing the personnel of senior officers and officers of the active scale of the artillery corps, eliminating from it, definitely, all those "who by their hotheadedness and obstinacy have continued to maintain a state of latent indiscipline which is disturbing public tranquillity with the dangerous risk of breaking it down altogether, which tranquillity has been maintained up to now in an exemplary manner by the rest of the army in all its departments.

After a reference to the preamble of the above-mentioned Royal Decree in which the situation in regard to the artillery officers is explained—the government states that it has not yet lost complete faith in the qualities and comprehension of the officers of the artillery corps—and hopes that many who have protested against the unqualified conduct of their comrades, a few of whom, posing as their

representatives have co-opted them by means of a misunderstood *camaraderie*, will have the civic and personal courage to act for themselves, each one according to the dictates of his own conscience, which would naturally be towards patriotism and loyalty; and will hasten to apply for readmission to the corps from which, according to this decree, they are temporarily separated. There is no question of calculation as to the future or present sacrifices, but honestly to declare themselves and show an example. They can redeem by an act of true and compulsory military virtue the past mistakes, the weakness and short-sightedness of each one and their deplorable consequences on the general prestige and security.

The note states that the artillery dispute, which has existed for half a century, is not one of *esprit de corps* or conviction, for, in regard to promotion by selection the present Government has, by suppressing promotion for distinguished service in the field, gone much further than the supporters of the *Escala Cerrada* ever asked. The Government contends that the artillery are only fighting to maintain a privileged *régime* which made them an autonomous power against the Governments and even against the Ministers of War themselves who weakly regarded the corps as beyond their jurisdiction. These obstinate and mistaken ideas clashed with those of a Government whose own predominant military character and conception of dignity led it to see the necessity of unifying legislation for all, rejecting the supposition of distrust in its justice; had it acted differently it would have admitted that there were reasons for this distrust.

The question having thus arisen and being settled in the only way possible consistent with military discipline, a full amnesty seemed to open the way for subordination to the command, and to put a fitting end to the problem. Unfortunately such has not been the case, and the trouble has been resuscitated with political and revolutionary assistance, causing harm to the nation which it will be difficult to undo. This serious relapse demands harsher treatment, and, apart from that which with strict legality and firmness will be applied in the cases under consideration by judges and military courts, the whole corps must be carefully cleansed, separating from it and removing from all contact with it those who have debased all that it prized and the essence of its spirit and virtues.

Doubtless public opinion reserves its most severe judgment for politicians and agitators who have endeavoured to take advantage of the unrest in part of the army to further their ambitions, and for the artillery officers who have not shown judgment, prestige or experience in defending the good name of the corps.

As to the situation of the Government, it will be daily stronger according as the difficulties it has to meet are greater. It came into power to clear the horizon, and believes it has kept the atmosphere clean and bright during five years, and it intends to regain that atmosphere quickly and energetically. Only when it has finished the self-imposed mission of establishing a constitutional *régime* of a special type, supported by a true plebiscite, in an active but peaceful environment, and in the well ordered practice of citizenship, then only will it resign to the country and the King the powers it received from both and which it considers most distinctly ratified in these difficult days. It will then submit its action to the full examination of the first Constitutional Parliament established. By this happy day the exhibitions will be over; the public Treasury will have consolidated by the liquidation of the 1929-30 Budget and the presentation of the estimates for 1931-32, its present prosperous position to the point, possibly, of including in the latter and successive estimates the remaining obligations of the Extraordinary Budget until they are completely incorporated. The public works, now in progress, will be exploited and giving a return; social and military discipline will have recovered from the sharp transitory attack from which they are now suffering,

and the country will have recovered in the opinion of the world the prestige which it enjoyed before these days of unrest. The Spanish Dictatorship, like those of Italy, Portugal, Chile and others, knows its duties and is disposed to fulfil them rather than degrade by weakness the glorious mission corresponding to it in the history of the life of the nation.

Although nothing much has happened up to the present, yet it would have been sufficient to bring about the fall of any other form of government, with a return to the state of intrigue, etc., which formerly reduced the country to such a state of disorder and loss of prestige. "God will not permit that this time things should return to such a state."

The note concludes with a few words of exhortation to the artillery officers who have not offended. It states that it understands the pain caused by the measure it has taken of separating them from their corps, commands and appointments for a few months, a few days, or possibly only a few hours; but this measure was indispensable in view of such indiscipline and revolutionary tendencies which demand a definite and public confirmation of loyalty to those in power.

The Government believes that those who, by letter, swear allegiance will be the first in future to prevent any act or conversation which would weaken military doctrine, and by breaking away from harmful camaraderie will be united by stronger ties, purified by the vision they have seen of the harm inflicted on the country, and by a sincere and loyal sacrifice of *amour propre* which, in order to make amends, they offer by submitting entirely to the orders of this Royal Decree.

The Government stresses its desire to put an end to this chaotic state of affairs regarding the artillery officers, and, while applying those measures which, to the artillery, must appear strict, appeals to the spirit of citizenship and military sense of its officers to fulfil their duties to the "Country, the King and the Government."

On 27th February, King Alfonso signed a decree returning to civilian life the entire cadet corps at the Artillery Academy of Segovia. This extremely severe measure, which deprives of their careers youths some of whom have spent five years in the Academy, has caused a profound impression.

The reasons given for this decision are that it is necessary to destroy utterly at its birthplace the absurd mentality professed for the past half-century by the artillery officers, who placed the engagements taken on leaving the Academy to observe the artillery traditions as regards refusing promotion on merit above the King's regulation, and even the oath of allegiance to the flag. This mistaken *esprit de corps* sedulously fostered at Segovia has gathered in recent years intensity, and the Government considers it necessary to destroy it. The Academy at Segovia will be re-opened with cadets from the General Military Academy at present in course of formation at Saragossa, where they will have spent two years, so that there will be an entirely new class of candidates in whom the Segovia spirit will have no place.

UNITED STATES.

MILITARY TRAINING.—The Secretary of War, in his annual report for 1928, reviews the progress made by the National Guard, the Organized Reserves, Reserve Officers Training Corps, and The Citizens Military Training Camps.

National Guard.

The National Guard is stated to have attained its highest measure of efficiency in the peace time history of this organization. It is now more highly organized, more completely equipped and more thoroughly trained than ever before.

An important factor which has contributed to the increased efficiency of the National Guard is the fact that during the past four years 1,499 officers and 514 enlisted men of that organization have attended Regular Army schools. After stressing the importance of the National Guard as an agency of national defence, the Secretary of War goes on to say: "It readily can be seen that the National Guard has reached a most desirable point of stabilization. The aggregate strength on 30th June, 1928, was 181,221, as compared with 177,428 on the same date four years ago." He states that the National Guard is now capable of meeting any demands which may be made upon it within the various States, and that it is fit to take its place in the front line of defence in any minor emergency necessitating the early employment of troops in excess of the Regular Army. Also that it is fit to mobilize and train its own recruits for an emergency demanding the exercise of the full man-power of the nation.

Organized Reserves.

These are reported to have reached a strength of 120,288 on the last day of the fiscal year 1928. Of its components the enlisted reserve corps total 5,464, and the officers reserve corps 114,824, including 9,765 officers of the National Guard who also hold commissions in the Officers Reserve Corps. There has been little change in the strength of the Enlisted Reserve Corps, but the Officers Reserve Corps has increased by 36,970 during the past four years. Of this number some 20,000 have been graduates of College Units of the Reserve Officers Training Corps.

Reserve Officers Training Corps.

The numbers in the Reserve Officers Training Corps totalled 112,349 at the close of the 1927-28 school year. Financial considerations have limited the maximum in it since 1924, so that numbers have remained practically the same for the last four years, which have been utilized for consolidation and improvement of the corps and special selection of the instructors, who are mostly graduates of the regular Army Service Schools.

During these four years 22,981 college and university students have graduated from the Reserve Officers Training Corps, of whom 20,941 accepted commissions in the Officers Reserve Corps. In effect the Organized Reserves are being fed from the Reserve Officers Training Corps at the approximate rate of 5,000 each year with young officers of high intelligence and a good foundation of military knowledge.

Citizens' Military Training Camps.

During the four years ending 1928, applications for these camps were received from 221,000 youths, of whom only 143,000 were admitted owing to financial stringency.

In recent years there has been a continual increase in the percentage of applications from youths in urban districts, as compared with those from farms and small towns.

There are now fifty-two annual camps in thirty-four states of the nation; the majority are held in the vicinity of Army posts. Labour and Capital both encourage the camps, and all religious denominations have given active assistance. The report is particularly enthusiastic about the success of these camps, stating that they have far exceeded the fondest expectations of those demanding full recognition of this project in the National Defence Act, 1920.

Thus, in the case of each of these reserves to the regular military strength of the U.S.A., there appears to be no lack of popular enthusiasm.

AIR NOTES

ROYAL AIR FORCE

APPOINTMENTS.

Rank and Name.	To	Date.	Remarks.
Air Commodore R. H. Clark-Hall, C.M.G., D.S.O.	Air Ministry (Dept. of A.M.S.R.) (D. of E.)	15.3.29	On appointment as Director of Equipment vice Air Commodore A. M. Longmore, C.B., D.S.O.
Air Commodore A. M. Longmore, C.B., D.S.O.	Headquarters, Inland Area.	15.3.29	For duty as Chief Staff Officer.
Air Commodore J. L. Forbes, O.B.E.	Headquarters, R.A.F., Mediterranean.	12.2.29	To command, vice Air Commodore R. H. Clark-Hall, C.M.G., D.S.O.
Air Commodore F. W. Bowhill, C.M.G., D.S.O.	R.A.F. Depot (Inland Area)	20.3.29	Supernumerary. On transfer to Home Establishment.
Air Commodore C. S. Burnett, C.B., C.B.E., D.S.O.	Headquarters, Iraq Command.	30.1.29	For duty as Chief Staff Officer.

PERSONNEL.

FLYING TRAINING.—During the period 1st January to 31st March, the following have completed courses of instruction at Flying Training Units :—

	Officers.	Airmen.
Central Flying School	Nil	Nil
Ab initio	31	9
Conversion	4	—
Refresher	6	—

R.A.F. COLLEGE, CRANWELL.—Twenty-three Cadets commenced a two years' course of training on 10th January last.

FLEET AIR ARM AND COASTAL RECONNAISSANCE UNITS.

HOME WATERS.—No. 462 Flight, embarked in H.M.S. "Furious," was partially re-armed with a new type aircraft, the "Ripon" (Fleet Torpedo Bomber), before the ship sailed on the Spring Cruise.

No. 201 (Flying Boat) Squadron based at Calshot carried out normal training and exercises with the Atlantic Fleet.

No. 203 (Flying Boat) Squadron has been transferred to the Iraq Command, and left Cattewater on 28th February. The squadron proceeded by air, and arrived at its new base at Basrah on 14th March in accordance with programme.

On the departure of No. 203 (Flying Boat) Squadron, a new squadron—No. 204 (Flying Boat) Squadron—was formed and based at Cattewater.

MEDITERRANEAN.—No. 202 (Flying Boat) Squadron at Malta carried out normal training and exercises with the Mediterranean Fleet.

(See also NAVY NOTES, page 410).

OVERSEAS COMMANDS

ADEN.

As a result of the continued raiding carried out on villages and caravans by certain sections of the Subeihis, a tribe inhabiting the South West corner of the Aden Protectorate, the offenders were warned that if restitution for the raids they had committed was not made, action would be taken against them. The warning was ignored and accordingly aircraft of No. 8 (B) Squadron commenced air action against the villages occupied by the guilty tribe on 30th January. Bombing continued intermittently until 11th March, when the tribal sections concerned offered to negotiate. Restitution was made in accordance with the demands of the Resident and on 27th March it was reported that the operation had been brought to a successful conclusion. The situation is now normal.

INDIA.

EVACUATION FROM KABUL.

In view of the serious state of affairs resulting from the rebellion in Afghanistan, it was decided in December to evacuate from Kabul all the women and children belonging to the various Legation Staffs in the first instance, and later the members of the British and Foreign Legations and other European and Indian residents. On 22nd December the British Minister at Kabul, having obtained permission from the Afghan Government for British aircraft to use the aerodrome at Kabul, asked the Government of India to send up aeroplanes for this purpose. Five aircraft accordingly landed at Kabul on 23rd December and commenced the evacuation.

In order to accelerate the rate of evacuation, these aircraft were later reinforced by seven Vickers Victorias, which were flown from Iraq to Peshawar, a distance of 2,500 miles. These evacuation flights continued until 25th February, by which date 586 persons representing eleven nationalities had been evacuated.

No mishap of any kind to the passengers was experienced during these flights, which were carried out under extremely difficult conditions. On one occasion, one aircraft was forced to land on the way to Kabul, but the occupants were able to return to Peshawar without suffering any ill effects.

IRAQ.

During the period under review, further raids were carried out by Akhwan tribesmen into Iraq and Koweit. The raid into the latter territory in January was probably prompted by the presence there of a large number of Iraqi shepherd tribesmen who had crossed from Iraq to take advantage of the better grazing. In all other districts the situation has remained satisfactory.

KOWEIT.—On 21st January a raiding party consisting of about 300 Akhwan belonging to the Ajman and led by Dhaidan Ibn Hithlain, the paramount Sheikh

of the tribe, attacked some Iraqi shepherd tribes who were grazing in Koweit territory midway between Basrah and Koweit. The Iraqi shepherds were taken by surprise and the raiders rounded up the flocks and made off with a considerable amount of loot. On their way back to Nejd later in the day a small party belonging to the raiders fired on two cars containing three American citizens, one of whom was killed, and another car containing a British officer came under the raiders' fire at about the same time. The raiders then continued their journey southwards. An attempt was made by an armoured car patrol to intercept the raiders before they could reach Nejd territory but, owing to bad going, this had to be abandoned.

On the 19th February two attacks were carried out by Akhwan on Iraqi tribesmen grazing inside Nejd territory. The Zayyad section of the Beni Huchaim was raided at Lauqah and suffered the loss of 1,600 camels and 10,000 sheep. Fourteen of the Iraqi tribesmen were killed. On the same day, sections of the Shammur and Dahamshah were attacked at Gaisuma. Both these attacks were carried out by the Ataibah.

On the morning of the 3rd March a party of Akhwan raiders, numbering between four and five hundred, attacked the Beni Malik, an Iraqi shepherd tribe who were grazing between Koweit and Jahrah about twenty-five miles from the Koweit-Nejd frontier. News of the raid was received by the A.O.C. on the same morning and two flights of No. 84 (B) Squadron were despatched immediately to take action against the raiders. About twenty miles South of Koweit the aircraft came into contact with the raiders who were making South with their loot. On seeing the aircraft the raiders at once opened up a heavy fire, killing a wireless operator. The aircraft retaliated with bombs and machine gunfire and the raiders were driven back into Nejd suffering casualties.

SUDAN.

During February further trouble occurred in the Gawair and Lau Nuer country of the Upper Nile Province. As part of a pre-arranged plan of operations against the Nuers for raiding the Dinka tribes, posses of mounted police were employed to patrol the Gawair and Lau country. On 8th February a patrol of mounted troops and police were approaching Dengkurs Pyramid when they were attacked by Gwek Wonding, a witch doctor of the Nuer tribe, with some two hundred followers. The attack was repulsed and resulted in the death of Gwek and seventeen of his followers. The remainder of the party fled.

As a result of this attack it was decided to take action against the Nuers in the area South of the River Sobat and West of the Zeraf River. For this purpose, and also to prevent the area being used as a sanctuary by the recalcitrant tribes, Flights of No. 47 (B) Squadron, with their base at Malakal and operating from an advanced base at Ajwong, carried out a bombing demonstration in the area West of the Zeraf with good results. The flights then returned to Malakal to carry out peaceful demonstrations over Lau and have now returned to Khartoum.

DOMINION AIR SERVICES

CANADA.

ADVANCE IN AVIATION.—Aviation in Canada is developing rapidly. A recent official compilation disclosed that there are 333 airplanes in operation in the Dominion compared with 101 early in 1928.

Of the total of 333 planes, 246 are engaged in commercial work and 87 in the service of the Canadian Federal and Provincial Governments on forest protective work, map photography, mail carrying, and a variety of other tasks that call for speed.

There are now forty-four air harbours in Canada, as compared with twenty-five at the beginning of 1928. Licenses held by commercial pilots as on 1st January, 1929, number 190, or more than four times the number held on the corresponding date last year.

AVIATION IN FOREIGN COUNTRIES

CHINA.

General Chang Wei Chang, Chief of the Canton Aviation Department, completed his flight round China visiting Hankow, Nanking, Peking, Mukden, Tientsin, Shanghai and Nanchang, a total distance of 3,600 miles.

The authorities are now said to be preparing a number of landing grounds for the purpose of a regular service between Hankow and Canton.

FRANCE.

THE AIR MINISTRY.—The development of the French Air Ministry has continued steadily during the past three months. An Air Staff has been formed, and a General Inspectorate of Air Forces, a General Technical Inspectorate and a General Technical Directorate have been constituted. A decree published on 9th February authorises the formation of four subsidiary services of the Technical Directorate.

- (a) Research.
- (b) Technical Development.
- (c) Production.
- (d) Air routes and bases.

On 18th February, Colonial Aviation was transferred to the Air Ministry which was given wide discretion as to the use of the Colonial Air Forces in developing air communications.

In a speech in the House of Representatives, M. Laurent Eynac stated that the Government policy was to concentrate Civil Aviation in three main companies.

- (a) European lines.
- (b) Lines to the East.
- (c) Lines to Africa and South America.

M. Laurent Eynac stated that plans for this concentration would be laid before the House early in 1929.

PARIS-SAIGON-PARIS FLIGHT.—A remarkable long-distance flight was performed by MM. Bailly and Reguensi in a Farman "F.190" cabin monoplane, with a Bristol "Titan" (Gnome Rhone) engine. Leaving Paris on the 26th March, they reached Saigon, Indo-China, on 5th April.

The return flight was started on 12th April, and completed in nine days. The flight was a private venture and about 16,000 miles were covered in nineteen days.

AIR WORK IN MOROCCO.—M. Steeg, the Resident General of Morocco, was relieved during January by M. Lucient Saint. In a farewell speech M. Steeg

referred to the work done by the French Air Forces in the Sahara and looked forward to the establishment of an air line joining Morocco with West Africa, across the Sahara.

AGREEMENT BETWEEN FRANCE AND ITALY.—An agreement has been concluded by which the Italian Government accords to the French landing facilities at Naples and Castelrossa. The French Government in return grant the Italian Government landing facilities at Marseilles and Tunis.

GERMANY.

DORNIER AIRCRAFT.

Dornier aircraft are now constructed in six factories: Amsterdam; S. Maria di Pisa, in Italy; two factories in Japan; a new one in Switzerland on Lake Constance; and one in Barcelona. Dr. Dornier himself has kept all his laboratories, drawing offices, etc., in Germany, but all construction work is done outside Germany.

The two factories in Japan build aeroplanes only; the other factories make flying boats only, except the Swiss factory which is going to turn out aeroplanes for the Balkan State armies.

DORNIER-WAHL FLYING BOAT.—The big Dornier-Wahl flying boat will shortly be ready. It measures about 36 metres in length, 57 metres wing-span, and 7 metres high.

It weighs 47 tons empty, and 65 tons in full flying trim. It has a crew of seven and carries twenty-five passengers, and 10 tons load. It has twelve engines arranged in six pairs, axially. The H.P. is 250 each, but the revolutions of the engines are graduated according as they work in the slip stream or otherwise. The boat is calculated to be able to fly with six engines only, but requires the whole twelve to rise off the water even under favourable conditions. Particular attention has been paid to the possibility of flight with some engines out of action. The speed is expected to exceed 120 miles an hour.

A NEW DESIGN.—Since laying down this boat, Dr. Dornier has set about constructing another of the same size and power. He has already succeeded in designing a similar craft, but with a weight of at least five tons less.

It is reported that the controls of this later boat will be remarkable. The pilot sits high up and will have two engineers to attend to the engines below him. He will communicate with them by telegraph, as in a ship.

ITALY.

CURTISS AND CAPRONI COMBINE.—It is reported that an important amalgamation in the aircraft manufacturing industry took place in January. The companies concerned are the Caproni Aviation Company of Italy and the Curtiss Aeroplane and Motor Company of New York, U.S.A.

A new company, it is understood, will be formed to control all the patents and designs for the exclusive manufacture and sale in the United States of Caproni products. The two companies will jointly control the new company.

It is not known whether there will be any financing, although it is reported that \$4,000,000 in securities will be offered.

JAPAN.

LARGE FLYING BOAT FOR THE NAVY.—The large flying boat mentioned in these Notes in the February JOURNAL has been completed. It is equipped with two 600 h.p. B.M.W. engines (not one 800 h.p. engine as previously reported); its total weight is 8.6 tons and it can carry fifty people, being provided with passenger seats, observation room and sleeping berths.

The speed of the machine is about 100 knots. It can fly from Tokyo to Shimonoseki in six hours and it has flying capacity for making a return journey between these cities without landing.

Its special features are the strength of the hull and excellent arrangement of floats on both sides.

This flying boat is to be presented to the Navy by the Navy League.

SOVIET UNION.

AERONAUTICAL RESEARCH.—Aeronautical research in Russia is centred principally at the Ts. A.G.I. (Central Aero Hydrodynamic Institute) at Moscow. This research establishment is equipped on conventional lines and includes departments dealing with the theory of flow, design, testing of aircraft material, research in all-metal construction, aero-engines, hydraulic engineering and the utilization of wind power.

The establishment has up-to-date plant, including several wind-tunnels, and also a low pressure chamber for the testing of engines under conditions similar to those which exist at high altitudes.

Russian theoretical aeronautical research is thought to be on a high level but although Russia has a few highly skilled personnel and also modern apparatus, she apparently lacks good workshop practice and experience in working metals, both of which are essential if Russia is to derive most benefit from research. Aircraft produced in Russia are, at present, largely copies of foreign types.

AIRSHIP NOTES

GREAT BRITAIN.

NEW AIRSHIPS.

"R.100."—Good progress has been maintained at Howden with the work outlined in the last issue of these Notes, as remaining to be completed on this airship.

The fuel and oil systems and ballast services throughout the hull are completed; the outstanding installation work concerns chiefly the main and miscellaneous controls, with auxiliary control equipment, and the power car details. The erection of the mooring winch and hail-rope platforms in position within the hull is proceeding.

"R.101."—The hull structure is completely erected from the bow to frame 13; frames 14 and 15, which carry the fins, are completely assembled on the ground, and the internal fin-supporting structure incorporated with these frames is practically complete. The fins, which are in course of assembly, remain to be fitted before this section is lifted and joined in position in the airship; the tailcap which is already assembled will then be lifted to complete the erection of the hull structure.

The passenger accommodation, including the heating, ventilating and sanitary systems is well advanced; the outer cover is nearing completion and is fitted to the airship from the bow to frame 12, the gasbags are completely fabricated.

The Beardmore heavy-oil engine is at present undergoing type-test at contractors' works; preliminary running has been satisfactorily accomplished.

AIRSHIP STATIONS.

INDIA.—Progress has been maintained with the erection of the mooring tower at Karachi airship station and, as already stated, the work should be completed during the summer.

CANADA.—The mooring tower erected by the Government of Canada at St. Hubert Air Port, Montreal, will shortly be completed.

HELIUM GAS IN CANADA.

A report from Medicine Hat, Alberta, asserts that large quantities of helium gas can be produced from the gas wells of the Bow River and South Saskatchewan Valley to the South and West of that town. It is further stated that helium in commercial quantities has already been produced in Canada.

GERMANY.

FLIGHT OF THE GRAF ZEPPELIN ("L.Z.127").—The "Graf Zeppelin" left Friedrichshafen shortly after midnight on the 24th March on a cruise over the Mediterranean to Palestine and back, and landed at Friedrichshafen at 10.17 a.m. on the 28th March, having covered approx. 5,000 miles in 82 hours. The ship carried twenty-eight passengers, a crew of forty and mail.

PROGRAMME FOR FURTHER FLIGHTS.—According to the press, the Zeppelin Company have announced the following proposed flights with the "Graf Zeppelin" in the course of the year.

In the latter part of May and again in June further flights to America are contemplated, and at the end of the summer it is hoped to make a flight to East Prussia, via Berlin.

The Atlantic flights are regarded mainly as training for the crew and only a limited number of passengers will be carried, the fare being £150.

CONSTRUCTION OF THE "L.Z.128."—The principal characteristics of the new Zeppelin, the "L.Z.128," with which it is proposed to inaugurate a regular trans-Atlantic passenger and mail service, have now been published. They are as follows:—

Length	777' ("Graf Zeppelin" 770')
Max. Diameter	124' (" " " 100')
Capacity	5½ million cubic feet approx. ("Graf Zeppelin" 3½ million cubic feet).
Engines	Ten 550-h.p. Maybachs, in tandem ("Graf Zeppelin" five similar engines).

The experience gained from the Atlantic flights of the "Graf Zeppelin" is being made use of in the design of the new airship, and a corresponding increase in strength is hoped for. Blue gas fuel, already tried out in the earlier airships, will be employed, and the ship is expected to have a cruising speed of approximately 80 m.p.h.

Construction of the "L.Z.128" is not expected to begin until the end of the year, when it is hoped that the new airship shed will be ready.

SPAIN.

TRIALS OF A SPANISH-BUILT AIRSHIP.—The first airship built in Spain made a successful trial flight to Guadalajara on 21st February. The airship was built to the designs of Major Maldonado, an officer of Engineers, who has recently taken an aeronautical course in the United States. Construction was carried out under the direction of Señor Martinez Sanz, director of the L/A works at Guadalajara.

Most of the parts are of foreign manufacture and have been assembled in Spain. The airship is of the non-rigid type, the envelope of German rubbered linen, contains two ballonets of 34,500 cubic feet each, and is about 177 feet long with a maximum diameter of 36 feet. The practical capacity is 116,820 cubic feet.

Power is supplied by two Wright Whirlwind nine-cylinder, air-cooled engines of 220 h.p. each, which are placed one on each side of the cabin. The cabin is torpedo shaped, 26 feet long, 5 feet wide and 6 feet high. A crew of six persons is the total that can be carried, but allowance is also made for stores, water and baggage.

According to the Spanish authorities, it is calculated that with full tanks the airship can carry five persons and a load of 330 lbs. and fly at its maximum speed, e.g., 62 m.p.h. for eight hours.

The airship is to be used for training military pilots. The installations at the Guadalajara station are small, and it is proposed to improve the existing hangar and to construct a metal lattice mooring mast 32 feet high, mounted on a concrete base.

REVIEWS OF BOOKS

GENERAL.

A Handbook on Sports Organization. By "A. A. G." (Aldershot: Gale & Polden, Ltd.).

A thoroughly practical and useful little book, giving excellent data for conducting every kind of athletic meeting, including swimming and boxing competitions. There are tips on training and judging events with specimen judging cards and diagrams of the various types of athletic grounds for the successful holding of all such meetings. It should prove of real utility. The letters "A. A. G." indicate the author's initials and do not imply any official origin.

Ypres: Outpost of the Channel Ports. A concise Historical Guide to the Salient of Ypres. By Beatrix Brice, with the assistance of Lieutenant-General Sir William Pultney, K.C.B. (London: John Murray). 2s. 6d.

This little book gives a brief description of Ypres and the surrounding battlefields. Lord Plumer has contributed a short Foreword to it. The several roads leading out from Ypres are all described, while there is an alphabetically arranged description of all the wartime "landmarks." This is followed by a similar list of all the war memorials and cemeteries in the area. The whole forms a simple and dignified little guide-book. It is a pity that the map is not on a slightly larger scale.

Ordnance and Gunnery. By Lieutenant-Colonel Earl McFarland, Professor of Ordnance and Gunnery, United States Military Academy. (John Wiley & Sons, Inc., New York. Chapman & Hall, Ltd., London). 1929. 32s. 6d.

Colonel McFarland's masterly book—masterly as much for the selection of what to omit of so vast a subject, as for what has been included—should reach a wide public, both in the United States and in this country. Since Colonel Bethell paved the way for such a volume, though on by no means so comprehensive a scale, recourse for similar information has been necessary to a multitude of official text books. British text books are uncompromisingly official, both in reading matter and in appearance, while their French counterparts are as uninviting as a railway guide.

This work, however, is attractively got up; it contains good illustrations and simple diagrams and, except when the treatment of the subject is mathematical, it is singularly free from obscure technical phraseology.

The peculiar position of the United States throughout the Great War as the arsenal of the Allied Powers and her financial supremacy afterwards have enabled her ordnance engineers to extract the maximum benefit from their experience in the factory and in the field, and so to establish throughout the country an up to date munitions manufacturing practice.

Colonel McFarland, therefore, very naturally deals throughout with production from the modern view point and is able to discuss in some measure post-war design.

For political and military reasons the American Expeditionary Force was re-armed with French armament, and American war experience was limited in the

main to the peculiar conditions of static warfare. The bias of the book in consequence is towards French practice, and modern British practice does not always receive due justice.

The introduction of what is essentially the British dial sight, in place of the French system of laying, passes unacknowledged, while the statement that the British 75 mm. field gun, model 1917 (presumably the 18-pdr., Mark IV) employs a hydro-spring recoil system is incorrect. The chapter on autofrettage is welcome, and the description of the 75 mm. 1897 model field gun adds much to the interest of the volume.

The comparative table on page 356, showing the improvements achieved by American designers in the new 155 mm. gun over its predecessor the 155 mm. G.P.F. of French production, must direct criticism to the latter as much as praise to the former.

Flashless propellant, to the introduction of which some at least of this improved ballistic performance is due, is discussed briefly, tactically and technically, in an interesting manner.

The discussion of the problem, shrapnel *versus* high-explosive, however, fails to disclose that modern French policy is due as much to the inadequate opportunities for training in fuze setting and in shrapnel ranging which the greatly reduced period of military service permits as to the manufacturing and tactical advantages of high explosive shell.

Colonel McFarland's arguments for high explosive in barrages are true if confined to defensive barrages, but the tables are turned when barrage fire is employed to cover an attack where troops are required to follow the bursting shell closely to achieve the maximum surprise and protection. The backward effect of high explosive renders such a proceeding most hazardous. British high explosive shortage in 1915-1916 was due to difficulties of change in the process of manufacture turnover rather than to obstinate adherence to a preconceived policy. The supply of raw material necessary for the nitration of high explosive is a factor which may also merit serious consideration. The problem is not one to which four-square theories can be made to apply and is susceptible to a number of imponderable national and military considerations of objective, training and morale.

If criticism on the score of selection in handling so vast a subject is possible, one might regret the inclusion of a somewhat inadequate chapter on motorised transport, and of a chapter on grenades. A chapter on industrial mobilisation and on the raw material problem would have been of great interest.

Some useful tables, a chronological outline, a good index and an appendix dealing with the conclusions of the Calibre Board complete what is altogether a most welcome and readable book.

NAVAL.

The Merchant Navy. Vol. III. (John Murray). 21s. nett.

The Prince of Wales, in his Foreword to Sir Archibald Hurd's third and last volume of the history of the Merchant Navy during the war, has written: "The sight of the Red Ensign has, in these later days, given me a thrill of a very special kind, for that familiar piece of bunting can never fail to recall the wonderful record of our merchant seamen throughout the struggle of four and a half years." And Sir Archibald Hurd has produced a final volume which is in every way worthy of the great story he has related. It is an Official History, but unlike most books of that type, there is scarcely a dull page in it and in a great many places it reads

like a thrilling story of adventure, with its tales of hardships faced with indomitable pluck and of bravery in the face of the enemy.

This third volume picks up the story at the beginning of 1917, when the intensive submarine campaign commenced, and tells the story of the blackest month of the war, April, 1917, when over two hundred British merchant and fishing vessels were sunk. We read of the work of the Auxiliary Patrol, of combined submarine hunts by destroyers and drifters, of the wonderful services of the "ubiquitous" trawler and of the mine barrage at Dover and in the North Sea. so we are made to understand how the work of these ancillary services gradually undermined the morale of the German submarine crews. Two chapters are devoted to the 10th Cruiser Squadron, composed of Armed Merchant Cruisers, who held the Northern Gate throughout the war from far out in the North Atlantic to the ice pack of the Arctic Circle.

The history of the great efforts of the Admiralty to provide weapons for the merchant ships and to train the merchant seamen to use them, forms an inspiring chapter, for it shows how the officers and men, under the White and Red Ensigns were welded into one great Sea Service. There follows a long tale of disaster to merchant ships, coupled with stories of heroism and of plucky fights in which the submarines were evaded and destroyed. Stories of atrocities, such as those of the "Belgian Prince," the "Maniston," and of the wanton sinking of hospital ships are plainly told. Then we read of the brutal treatment of our merchant seamen prisoners in Germany, stories unbelievable if they were not authentic and which in themselves justify the severe naval peace terms.

In his final chapter the author analyses the failure of the submarine, and says that "if the officers and men of the Merchant Navy had not exhibited powers of endurance beyond anything known in the history of the seas, defeat would have come to the Allies." That is a truth that will go down to history, and the great story is greatly told in this book.

Brassey's Naval & Shipping Annual, 1929. (W. Clowes & Sons, Ltd.) 25s.

To the veteran editor, Commander C. N. Robinson, R.N., the thanks of the readers of the 1929 Brassey's Annual are due for having come to the rescue at a crisis in the career of that forty-year old publication. It would be a real calamity if there were a break in the continuity of this most valuable record of maritime progress and events, and it is to be hoped that the Publishers will see to it that the production of Brassey is put on as firm a basis in the years to come as it has been in the past.

The normal features—reviews of the British and Foreign Navies, chapters dealing with the development of merchant shipping, and the mass of valuable information contained in silhouettes, plans and tables—are there, all revived and brought up to date. As always, too, there are a number of excellent articles dealing with topics of current interest in maritime affairs or with technical improvements; chief in importance among the former, at the present moment, are the contributions by Rear-Admiral W. L. Rodgers, U.S.N., and Captain A. C. Dewar, R.N.

Admiral Rodgers, writing on the "Naval Policy of the United States," gives us what may be regarded as a typically American view of the negotiations for the limitation of naval armaments. Like so many of his countrymen, he has got "parity" on the brain, and is obsessed with the idea that Britain is doing everything to prevent the U.S. Navy reaching that blessed stated in relation to our Navy. Captain Dewar's article "The Geneva Conference and After," supplies a

useful corrective to such a presentation of the case. Both articles tend to confirm the views expressed in our "International Situation," that innumerable dangers as well as obvious difficulties beset the task of reducing the problem of limitation of navies to practical terms.

Amongst the several useful technical chapters of the Annual is one reviewing the present-day potentialities of the submarine mine and its uses in sea warfare of the future, by Commander A. L. Gwynne, R.N., which may be read with advantage in conjunction with the article in this quarter's JOURNAL on "The Submarine and its Antidotes."

Full justice is done to the Mercantile Marine in the second part of the Annual, while the illustrations seem even more profuse than usual.

The Story of H.M.S. "Victory." By Professor Geoffrey Callender. (Philip Allan & Co., Ltd.). 3s. 6d.

Professor Callender has made a valuable addition to the Nautilus Library Series by the reproduction of his "Story of H.M.S. 'Victory.'" It is a story that has often been told in parts, but the author carries it from the first inception of the ship to her position at the present day; and he does it with the authority of a historian, but with the pen of a historical novelist.

In his foreword is a description of the last successful fight to save the "Victory" for the Nation—a fight that was won because the "Victory" "since the day of her launch has never once been compelled to acknowledge defeat." He gives a fascinating and authoritative account of her building, of how she was named after her unfortunate predecessor, of her completion and fitting out and of her first commissioning.

Professor Callender has made a life study of the conditions of the Navy in the old days and he gives a pen picture of life on board the ships, both of officers and men, with many stories of the press-gang. Where he uses technical expressions of the day he explains their meaning in language that is clear to the layman. We are taken briefly through the many campaigns in which the "Victory" fought, flying the flag of Keppel, Hardy, Kempenfelt, Hood and Nelson and there is a vivid description of a ship of the line going into battle. This, however, is overshadowed by the author's masterly description of the scenes on board the "Victory" at Trafalgar, told plainly and without pathos and ending with the consternation of the fleet, when, after dark it was found that "there were no Admiral's lights on board the 'Victory.'" It is a great little book which should be read before paying a visit to the "Victory" herself.

Le Drame de Jutland. Par Edmond Delage. (Bernard Grasset, Paris). 12 francs.

More ink has been spilt over the Battle of Jutland than over any other battle of the Great War, except, possibly, that of the Marne. M. Delage brings nothing new to the controversy; his book consists of a short account of the "Fisher-Tirpitz Battle" as he calls it, preceded by a rapid review of the British and German naval policies conceived and carried out by the two creators of the opposing navies. The author sets out to be impartial and succeeds, with a few trifling exceptions, such as his misleading picture of both the fleets confined to their bases. Here and there a sentence seems to accuse Lord Jellicoe of lack of offensive spirit; but it is sure to be followed by a qualifying remark. Our failure to close the High Sea Fleet in the main action he attributes more to our fear of torpedoes than to

the absence of a proper system of battle intelligence. Yet if the book brings out one defect more than another it is our defective reporting.

The author notes the arguments of English partisan writers but sides with none. He discounts the German propagandist claims to victory; for him the Battle of Jutland is a German tactical achievement and a British strategic success.

With its clear diagrams, illustrating the broad situation at each successive phase, the book is a reliable and admirably concise summary. Written, no doubt, for the layman, it is worth the attention of Service readers.

At Sea with Nelson. Edited by Captain Mark-Wardlaw, D.S.O., R.N. Sampson, Low, Marston & Co.). 12s. 6d.

The sub-title of this book, "Being the Life of William Mark, a Purser who served under Admiral Lord Nelson," is perhaps a trifle misleading. Anyone who expects to find within it further enlightenment upon the greatest of Admirals will certainly be disappointed, since Mark's connection with him was but fleeting. On the other hand, one who takes the title and sub-title not too literally and is intent upon conditions at sea generally during the Revolutionary and Napoleonic Wars will find much of interest.

William Mark left his home at Berwick-on-Tweed at the tender age of eleven, to be trained to a business career. Misfortune befel him and at nineteen he enlisted in the Royal Navy. The misery of his first two or three days throw a penetrating, but all too brief, gleam of light on contemporary conditions of enlistment, but his business training soon stood him in good stead. He was selected for clerical duties, for which he showed such appetite and aptitude that he rose to be Purser, and finally became Prize-agent to the Mediterranean Fleet. In the latter capacity he appears to have amassed a little fortune, though he characteristically tells us more of his losses than of his gains. Finally, he takes leave of us as British Consul at Malaga.

William Mark was born near enough the border to have acquired many Scottish characteristics. He was a glutton for work, somewhat self-righteous, and a bit of a moralist. But he had his humorous moments, as when he notes that the Royal Family "appeared to eat and drink very much like other people," and that Sardinian girls dressed so as "to trim their bearings most interestingly." He made many friends and the admirable relations between the commissioned and warrant officers in the ships in which he served are noteworthy—Nelson's "band of brothers" indeed. Captain Mark-Wardlaw has performed a pious duty to the honourable shade of his great-grandfather in editing his autobiography.

The Confederate Privateers. By W. M. Robinson, Junr. (Yale University Press.) 18s.

America had refused adherence to the Declaration of Paris, in which privateering was declared illegal by the signatories, and, when the War of Secession began, regretted this omission, for the Confederates, unable to compete in ordinary naval warfare on equal terms, immediately organized privateering expeditions against Northern commerce, and were able to do so with every appearance of right. The Northern Government—not for the last time—struck a high moral attitude, denounced the privateers as pirates, threatening to hang them, if they were caught, and informed England of its readiness to sign the Declaration of Paris.

But English statesmen were not so easily deceived, and international opinion, together with the threat of reprisals by the Confederates, forced the North to

treat captured privateersmen as prisoners of war. The Confederates certainly took great care in issuing their letters of marque and the recipients of them behaved with humanity. Altogether President Lincoln's Government came out of the matter rather badly. Indeed, it may be that, in the sympathy for the possible fate of the privateersmen and the dislike of the Northern attitude, there may be found another reason for the rather odd English preference for the Secessionists. The privateers did considerable damage to Northern shipping in the opening years of the war, but the Northern blockade soon caused the hope of gain to become more illusory, and true privateering activity was almost dead by the end of the war.

Mr. Robinson has written the last chapter in the history of privateering and his book contains much valuable information. He has not, unfortunately, given unity to his story which falls into disconnected chapters of varying merit. Some are overloaded with uninteresting detail, others are full of exciting matter well handled.

MILITARY.

Military Operations, Gallipoli. Compiled by Brigadier-General C. F. Aspinall-Oglander, C.B., C.M.G., D.S.O., *p.s.c.* Maps and sketches compiled by Major A. F. Becke, R.A. (retired), Hon.M.A.(Oxon.). Vol. I: Inception of the Campaign to May, 1915. (London: William Heinemann, Ltd.). 1929. 15s. Maps 4s. 6d.

The publication of this long expected history does nothing but intensify the already painful impressions that have accumulated round the memories of Gallipoli.

The book falls into two parts: firstly the preliminaries to the campaign proper, including the initial naval bombardments of the forts standing at the mouth of the Straits; secondly, the story of the actual landings and the early battles of Krithia.

It is the first part that makes the saddest reading for the strategy of the War Council stands unredeemed by the heroism of the troops, while it throws into strong relief how mismanagement in the inception of any operation of war can be paid for by subsequent failure and suffering. It is impossible not to incline to the opinion, even after reading the first few chapters of this book, that from the point of view of major strategy the conception of the Dardanelles Campaign was sound; also that, had it been started and carried through as a joint operation, which could have been done late in 1914 or even early in 1915, it might have succeeded, and at a cost of a far more moderate development of force, and at an expense in blood and money that would have been trivial when compared with those ultimately incurred. But as it turned out the whole story is one of indecisions and hesitations, instead of firm purpose and systematic planning. There was at that time neither Naval nor General Staff competent to deal with the problem. To this fact must be added the opposition of Sir John French, coupled with the dislike of the French Government to the whole scheme, and, as is shown by the present work, the vacillation of Lord Kitchener.

How far are we now prepared to face another such problem? Much, has doubtless been done; we have learnt by bitter experience. But, as Sir William Robertson has remarked in effect elsewhere, the production of this very history is evidence that co-operation between the high authorities of the respective Services is not yet ideal. If ever there was a campaign which called for a joint narrative, sponsored by both the Admiralty and the War Office, it was the

Dardanelles; yet we find this military publication following on an earlier naval Official History, the former published without even a blessing by the Army Council, and the latter actually disowned by the Board of Admiralty. The golden opportunity for producing what should have been an enduring text book for both Services, has now been irretrievably lost.

To turn to the purely military aspects of the operations themselves. The element of surprise in an attack on the Dardanelles in April, 1915, was unattainable. The naval bombardments of the outer defences of the Straits on 3rd November, 1914, had been followed by the far more serious similar attack on 18th March. These two attempts had put the Turks on their guard. Even on the latter occasion a joint naval and military operation might have achieved success. Five weeks later the Turkish defences were immeasurably stronger.

Then came the memorable landings on the 25th April. Six beaches were selected for the attempt. In this respect Sir Ian Hamilton seemed to be acting perfectly soundly and in accordance with the old Napoleonic principle "*on s'engage partout, et puis l'on voit.*" Of these six landings, one, that of the Australians, found the wrong beach, and far more difficult ground than was anticipated. The three landings round Cape Helles encountered stubborn opposition from weak but cleverly posted Turkish detachments. The landing at "Y" beach met nothing, while the landing at "S" beach failed to make best use of its opportunities. The issue hung in the balance. As our history says "A bold advance from 'Y' . . . must have . . . ensured a decisive victory for the 29th Division" What might not that event have brought about? But fate willed otherwise. The ensuing fighting at Krithia proved fruitless.

The conditions at Anzac, where the fighting seems to have taken on an aspect of a North West Frontier campaign, grafted on to a species of trench warfare, proved in the end more terrible. Heroism can go no further than it did both at Helles and Anzac.

There are two military lessons that this book makes abundantly clear. The first is that in such an operation, under modern conditions, the difficulty of landing artillery and of using it in the early phases of the attack are immense. The Australians in particular suffered sadly for want of it. Naval gunfire cannot replace guns on shore, partly owing to the unsuitability of the ordnance and partly owing to the difficulties of fire control. How far superiority in aircraft might atone for this defect is not clear from the Dardanelles. Our air forces were not in those days sufficiently developed to support a landing. Secondly, the chain of command and higher control of such an operation present great difficulties. At the Dardanelles this was particularly grave in the case of the 29th Division, which lost so heavily in its commanders. The history inclines to the opinion that the high command should remain afloat, in special ships or boats, to control both the landing and subsequent fighting.

Would a sprinkling of officers who had acquired war experience have assisted matters at Gallipoli; it is difficult to say. The Commander of the 29th Division had made a fine reputation in France; yet he did not achieve much at Helles. But leadership in this type of operation undoubtedly counts for everything; ground must be gained, that is the essence of the business in hand. Leadership of this type needs training. It is impossible not to wonder also what might have happened if there had been a less resolute enemy than the small Turkish forces at Helles and elsewhere. They certainly proved true to type—magnificent in defence.

The book is well written, with an occasional vivid literary touch.

Altogether it recalls in quality and interest the first two volumes of the History of the War on the Western Front, when the latter deal with smaller numbers, mobile conditions and great achievements. That is high praise indeed.

The maps are admirable.

Kavallerieverwendung nach den aus der Kriegsgeschichte zu Ziehenden Lehren. By W. Brenken, Major and Instructor of the Cavalry School. (Berlin: R. Eisenschmidt, 1928). 9 marks.

According to the Treaty of Versailles, Germany has been allowed to maintain no less than three cavalry divisions. The question of the future employment of that arm is consequently one that greatly exercises the German military mind. In this book the author tries to answer the query and draws conclusions that are favourable to his own arm. After briefly summarizing the methods employed by cavalry to achieve success from the days of Hannibal down to the Great War, he analyses the work of the German cavalry during the years 1914-18. He adds a few paragraphs dealing with the work of the Russian cavalry under Budjenny against the Poles in 1920, and also mentions the Turkish cavalry's pursuit of the Greeks in 1922. It is strange that he should not have studied the work of Allenby's horsemen in 1917-18.

In spite of there being no very new arguments or conclusions in the book, it forms a common-sense and serviceable summary of the case. The discussion of the use of cavalry and of armoured motor vehicles follows conventional lines. After all, as Germany possesses no tanks of any description, German military writers must turn to foreign instances, and cannot display much originality. The German cavalry work during the Great War is very well summarized; the author admits that it failed in its object, and deplores the fact that the whole German cavalry was not massed on the right flank, as had been intended in Schlieffen's original plan. The remarks as to the operations of the German cavalry in Russia and Rumania are useful.

A Short Account of Canteens in the British Army. By the Hon. Sir John Fortescue, LL.D., D.Litt. (Cambridge: The University Press.) 1928. 3s. 6d.

This is a pleasantly written little history of the canteen system of the British Army, from the XVIIth century to the present day. The various changes made in organization of canteens during the Great War, ending in the establishment of the Navy, Army and Air Force Institute, are told in detail.

Some Notes on the Life of Major Patrick William Forbes. Compiled by Lieutenant-General Sir E. A. Altham, K.C.B., K.C.I.E., C.M.G.

This little biography of Major Patrick W. Forbes was only written for private circulation, but Mrs. Forbes has kindly presented a copy to the Institution where it will serve as a useful record of a life devoted to Empire building in South Africa in the course of the occupation of Mashonaland, the conquest of Matabeleland, the overthrow of Lobengula, and the development of Rhodesia. It will also recall, to those who knew the man, a gallant officer and a lovable comrade.

REGIMENTAL HISTORIES.

The Coldstream Guards, 1885-1914. By Colonel Sir John Hall, Bart., C.B.E. (Oxford: The Clarendon Press). 25s.

This handsome volume bridges the lacuna between the two histories of the Coldstream Guards, written by Sir John Ross of Bladensburg. The former of these

dealt with the period 1815-1885; the latter with the Great War. Sir John Hall's volume deals with the years following the Egyptian Campaign down to the mobilization of 1914. Nearly his whole space is devoted to the Coldstreams in South Africa, from Lord Methuen's march on Kimberley down to the close of the war. It is a fine story very well told and illustrated by excellent maps by one who is clearly gifted with historical insight.

The Campaigns and History of the Royal Irish Regiment. Vol. 2. From 1900 to 1922. By Brigadier-General Stannus Geoghegan, C.B., late Indian Army and formerly of the 1st Bn. the Royal Irish. (William Blackwood & Sons, Ltd., London).

This history deals extensively with the war services of the 2nd Battalion of the Royal Irish Regiment, as well as with those of the 1st, 5th, 6th and 7th Battalions, as mentioned in the notice in the JOURNAL for February, 1928.

The Royal Inniskilling Fusiliers in the World War. By Sir Frank Fox, O.B.E. (London: Constable & Co., Ltd.). 21s.

This volume may be regarded as the continuation of the history of this regiment, which brought the narrative down to the Great War, but is written in a different style and from a different point of view. Altogether the scheme appears sound, since it has enabled the authors of either volume to deal with their matter more interestingly. In the present volume, moreover, there are two distinct sections, the first of 140 pages, dealing with the Western Front; the second, of 56 pages, telling of the Inniskillings at Gallipoli, Salonika and in Palestine. The remainder of the book consists of introductory chapters and very full appendixes. The whole arrangement enables the story to run smoothly and with a pleasing sense of unity. The maps, though adequate, are not up to the high standard of the volume, still less to that of the plates of its predecessor.

The Gloucestershire Regiment: War Narratives, 1914-1915. Compiled by Captain R. M. Grazebrook, O.B.E., M.C. (Bristol: The Gloucestershire Regimental Association). 1929.

These narratives constitute the history of the 1st and 2nd Battalions of the Gloucestershire Regiment in the Great War. This volume deals with the activities of the 1st Battalion, which was in the 1st Division, from the first day of mobilization down to 31st December, 1914, which period covers the retreat from Mons and the whole of the First Battle of Ypres. The latter portion of the book deals with the 2nd Battalion. This unit returned from China in November, and was incorporated into the 27th Division. The narratives here given begin on 1st April and go down to 20th May, thus covering the Second Battle of Ypres. This type of regimental history has many advantages—not the least being the personal note which is preserved throughout and the elimination of all dull matter. It is a most successful venture.

A Short History of the King's Own Yorkshire Light Infantry, 1755-1928.

This little booklet of 30 pages has been printed for distribution to recruits on attestation. It emphasizes all regimental traditions and customs of the past in a clear manner.

The 93rd Highlanders, now 2nd Batt. The Argyll and Sutherland Highlanders. (Princess Louise's), 1799-1927. By Brigadier-General A. E. J. Cavendish, C.M.G. 1928. (Published privately).

This monumental work, based on careful research among contemporary documents, is a clear history of this regiment's existence from 1759 to the present day, and can in no sense be regarded as limited to its activities in the Great War; these indeed are treated in no more than 38 pages. That meticulous care has been bestowed on the production of a truly remarkable volume is obvious from a perusal of every chapter. The book is profusely illustrated. It is a pity that it should be quite such a bulky tome.

Historical Records of the South Nottinghamshire Hussars Yeomanry. 1794 to 1924. By the late George Fellows, Major, South Nottinghamshire Yeomanry Cavalry, and the late Benson Freeman, O.B.E., F.R.Hist.Soc., Engineer-Commander, Royal Navy (retired). (Aldershot: Gale & Polden, Ltd.). 1928. 351 pages. 21s.

This volume narrates the entire story of the South Notts Yeomanry from its origin, in 1793, down to 1924, when it was converted into the H.Q. and two batteries of a field artillery brigade. The chapters have been arranged to coincide with the tenure of office of each successive commanding officer, an unusual arrangement. Barely a quarter of the text deals with the Great War, but the pages are tightly packed and read very well. The book is well got up and illustrated. There are a few maps, inclusive of one commendably lucid and comprehensive sheet illustrating the part played by the regiment in Palestine in 1917-18. The joint author, the late Engineer-Commander Freeman, R.N., was a painstaking and enthusiastic student of Yeomanry history and uniforms from the earliest days of his naval career.

ADDITIONS TO THE LIBRARY

GENERAL.

THE WORLD CRISIS: THE AFTERMATH. By Rt. Hon. Winston S. Churchill. 30s. 8vo. (Thornton Butterworth, London).

YARNS OF A KENTUCKY ADMIRAL. By Admiral H. Rodman, U.S.N. 18s. 8vo. (Martin Hopkinson, London).

JEFFERSON, FRIEND OF FRANCE, 1793. By Meade Minnigerode. 21s. 8vo. (Putnam & Sons, London).

MY ARMY LIFE. By Lieutenant-General the Earl of Dundonald, K.C.B., K.C.V.O. 21s. 8vo. (Edward Arnold & Co., London). Presented by the Author.

REMINISCENCES OF A NAVAL SURGEON. By Surgeon Rear-Admiral T. T. Jeans, C.M.G. 18s. 8vo. (Sampson Low, London).

THE CAMBRIDGE HISTORY OF THE BRITISH EMPIRE. Vol. I. Edited by J. Holland Rose, A. P. Newton and E. A. Benians. 35s. 8vo. (University Press, Cambridge). Presented by the Publishers.

GENERAL DYER. By Ian Colvin. 20s. 8vo. (William Blackwood & Sons).

BRITISH GOVERNMENT IN INDIA. By Lord Curzon of Kedleston. 63s. 4to. (Cassell, London).

YPRES: OUTPOST OF THE CHANNEL PORTS. A concise historical guide to the Salient of Ypres. 2s. 6d. 8vo. (John Murray, London).

LETTERS OF THE EMPRESS FREDERICK. Edited by Sir Frederick Ponsonby, G.C.B., G.C.V.O. 25s. 8vo. (Macmillan & Co., London).

A FATALIST AT WAR. By Rudolf Binding. 10s. 8vo. (G. Allen & Unwin, London).

SOME NOTES ON THE LIFE OF MAJOR PATRICK WILLIAM FORBES. Compiled by Lieutenant-General Sir E. A. Altham, K.C.B., K.C.I.E., C.M.G. 8vo. (Printed for private circulation). Presented by Mrs. P. W. Forbes.

COLD FEET. By Terence Mahon. 7s. 6d. 8vo. (Chapman & Hall, London.) Presented by the Publishers.

THREE PERSONS. By Sir Andrew Macphail, O.B.E., LL.D. 10s. 6d. 8vo. (John Murray, London).

RAIDERS OF THE DEEP. By Lowell Thomas. 10s. 6d. 8vo. (W. Heinemann, Ltd., London).

ADVENTURES OF MOTHER ROSS. By Daniel Defoe. 7s. 6d. 8vo. (Peter Davies, London).

FROM CARRACK TO CLIPPER. By F. C. Bowen. 12s. 6d. 8vo. (Halton & Truscott Smith, London).

THE SAILING SHIP. By R. & R. C. Anderson. 10s. 6d. 8vo. G. G. Harrap & Co., London).

A HANDBOOK ON SPORTS ORGANIZATION. By "A. A. G." 12mo. (Gale & Polden, Aldershot). Presented by the Publishers.

WOLFE IN SCOTLAND IN THE '45 AND FROM 1749 TO 1753. By J. T. Findlay. 15s. 8vo. (Longmans, London).

RICHARD BURDEN HALDANE: "AN AUTOBIOGRAPHY." 25s. 8vo. (Hodder & Stoughton, London).

NAVAL.

AT SEA WITH NELSON. Being the Life of William Mark, a Purser, with a preface by Captain W. P. Mark-Wardlaw, D.S.O., R.N. 12s. 6d. 8vo. (Sampson, Low, Marston & Co., London). Presented by Captain Mark Wardlaw.

HISTORY OF THE ROYAL NAVAL RESERVE. By F. C. Bowen. 6s. 8vo. (The Corporation of Lloyd's, London).

JOURNAL OF THE EARL OF SANDWICH. (Naval Records Society, Vol. 64). Edited by R. C. Anderson. 8vo.

THE MERCHANT NAVY. Vol. 3. By Sir Archibald Hurd. 21s. 8vo. (John Murray, London). Presented by the Publishers.

THE STORY OF H.M.S. "VICTORY." By G. Callender. 3s. 6d. 8vo. Philip Allen, London). Presented by the Publishers.

BRASSEY'S NAVAL & SHIPPING ANNUAL, 1929. Edited by Commander C. N. Robinson, R.N. 25s. 8vo. (William Clowes & Sons, Ltd., London). Presented by the Editor.

LE DRAME DE JUTLAND. By Edmond Delage. 12 frs. 8vo. (B. Grasset, Paris). Presented by the Author.

MILITARY.

LA CAMPAGNE POLONO-RUSSE DE 1920. By General L. Sikorski. 25 frs. 8vo. (Bayot, Paris). Presented by the Author.

ORDNANCE AND GUNNERY. By Lieutenant-Colonel E. McFarland, U.S.A. 32s. 6d. 8vo. (Chapman & Hall, London). Presented by the Publishers.

KAVALLERIEVERWENDUNG NACH DEN AUS DER KRIEGSGESCHICHTE ZU ZIEHENDEN LEHREN. By Major W. Brenten. 9 R.M. 8vo. (R. Eisenschmidt, Berlin). Presented by the Publishers.

REGIMENTAL HISTORIES.

- A SHORT HISTORY OF THE KING'S OWN YORKSHIRE LIGHT INFANTRY, 1755-1928. Pamphlet. (W. McGowan, Pontefract). Presented by O.C. Depot, K.O.Y.L.I.
- HISTORICAL RECORDS OF THE SOUTH NOTTINGHAMSHIRE HUSSARS YEOMANRY, 1794-1924. By the late George Fellows and the late Benson Freeman, O.B.E. 21s. 8vo. (Gale & Polden, Ltd., Aldershot). Presented by the Regiment
- THE 93RD SUTHERLAND HIGHLANDERS. By Brigadier-General A. E. J. Cavendish, C.M.G. 42s. 8vo. (Published privately). Presented by the Officers, and Argyll & Sutherland Highlanders.
- THE ROYAL INNISKILLING FUSILIERS IN THE WORLD WAR. By Sir Franck Fox. 21s. 8vo. (Constable & Co., London). Presented by the Colonel of the Regiment and the members of the Historical Records Committee, Royal Inniskilling Fusiliers.
- THE GLOUCESTERSHIRE REGIMENT WAR NARRATIVES, 1914-1915. Compiled by Captain R. M. Grazebrook, O.B.E., M.C. Presented by the Gloucestershire Regiment Association.
- THE COLDSTREAM GUARDS, 1885-1914. By Colonel Sir John Hall, Bart., C.B.E. 25s. 8vo. (Clarendon Press, Oxford). Presented by the Publishers.

AIR FORCE.

- THE BAGHDAD AIR MAIL. By Wing-Commander Roderick Hill. 18s. 8vo.
(Edward Arnold, London).
- THE SCIENCE OF FLIGHT. Vol. 2. By Captain P. H. Sumner. 25s. 8vo.
(Crosby Lockwood, London).

Report of Proceedings

AT THE

Ninety-eighth Anniversary Meeting

TUESDAY, 5TH MARCH, 1929, AT 3.30 P.M.

FIELD-MARSHAL THE VISCOUNT ALLENBY, G.C.B., G.C.M.G., D.C.L., LL.D.
(*Chairman of the Council*), presiding.

THE SECRETARY (Captain E. Altham, C.B., R.N.) read the Notice convening the Meeting.

ANNUAL REPORT FOR 1928

The Council have the honour to present their Annual Report for the past year.

VICE-PRESIDENTS.

The Council regret to report the loss of a most distinguished Vice-President by the death of Field-Marshal The Right Hon. The Earl Haig, K.T., G.C.B., O.M., G.C.V.O., K.C.I.E. The vacancy was filled by the election of Field-Marshal Viscount Allenby, G.C.B., G.C.M.G., D.C.L., LL.D.

Field-Marshal Lord Methuen, G.C.B., G.C.M.G., G.C.V.O.; Admiral-of-the-Fleet Sir Arthur Fanshawe, G.C.B., G.C.V.O.; and Major-General The Earl of Scarborough, G.B.E., K.C.B., T.D., A.D.C.; having completed their term of office as Vice-Presidents, have retired.

General Lord Horne, G.C.B., K.C.M.G.; Admiral Sir R. G. O. Tupper, G.B.E., K.C.B., C.V.O.; and Lieut.-Colonel Sir Arthur Leatham, Knt., K.C.V.O., C.M.G.; have been elected to fill the respective vacancies.

COUNCIL.

Vice-Admiral W. H. D. Boyle, C.B., was elected a Member of the Council, *vice* Admiral Sir H. H. Bruce, K.C.B., M.V.O., who resigned during the year.

Major-General P. G. Grant, C.B., C.M.G., was elected a Member of the Council, *vice* General Sir Philip W. Chetwode, K.C.B., K.C.M.G., D.S.O., who resigned on taking up an appointment abroad.

The following Members of the Council, having completed three years' service, retire:—

ROYAL NAVAL VOLUNTEER RESERVE.

*Captain The Earl Howe, C.B.E., V.D.

REGULAR ARMY.

General Sir J. A. L. Haldane, G.C.M.G., K.C.B., D.S.O.

TERRITORIAL ARMY.

*Colonel A. S. Bates, D.S.O., T.D.

Of the above, those marked * have offered themselves for re-election.

Lieutenant-General H. D. Farquharson, C.M.G., is also resigning.

Brigadier A. G. Little, C.M.G., has been nominated to fill the Royal Marine vacancy; and Major-General Sir J. E. Capper, K.C.B., K.C.V.O., to fill the Army vacancy.

STAFF.

Lieutenant-Colonel Sir Arthur Leatham having resigned the Curatorship of the Museum, the Council have appointed Major E. L. Hughes, D.S.O., O.B.E., to that office, which he now combines with his duties as Librarian.

Captain S. J. Parker, M.C., D.C.M., has been appointed to the post of Assistant Executive Officer.

MEMBERSHIP.

During the past year, 215 officers joined the Institution (compared with 217 in 1927). There were 96 withdrawals (compared with 129 in 1927). Thirty-two Life Members and 47 Annual Members died; 38 Members were struck off for being two years in arrears.

The total number of Members on 31st December, 1928, was 5,868. This represents an increase of total membership on the year of 2 members, but as the losses include 32 deceased Life Members, the actual financial gain in membership to the Institution is 34.

Details of Members joining are as follows:—

Regular Army (all arms)	139
Royal Navy	25
Indian Army	21
Royal Air Force	17
Overseas Forces	4
Territorial Army	3
Auxiliary Air Force	2
Royal Naval Reserve	1
Royal Naval Volunteer Reserve	1
Royal Marines	1
Civil Functionary	1

215

FINANCE.

The Council are glad to be able to report that the financial position of the Institution at the end of 1928 may be regarded as very satisfactory.

The balance credit, as shown in the Revenue Account, cannot be directly compared with that for 1927 or previous years as our new Auditors have advised the adoption of a different method of drawing up the Account.

In the 1928 Revenue Account, any subscriptions or Journal Sales received in advance for the ensuing year have been taken out and will be credited to 1929; whereas hitherto *all* moneys received during a year were credited to that year. The new system, it is considered, gives a more clear statement of affairs and will be adhered to in future.

For purposes of comparison, however, a balance has been worked out on the old system and this shows a credit in respect of 1928 amounting to £693 3s. 8d., as compared with the £461 14s. 9d. which, but for misappropriations, would have been the balance credit in 1927.

The improvement in the Institution's finances is mainly due to two causes :

- (a) Marked increase in the Museum takings ;
- (b) Increase of Members paying the slightly higher rate of subscription.

The Council have thought it prudent to make better provision for a Leasehold Redemption Fund. They have, therefore, sold those stocks which had been set apart for this purpose, and purchased from the Atlas Insurance Company a single premium policy of £16,166 which will mature in October, 1972, the date of the expiration of the Lease from the Crown of the ground on which the Institution (as distinct from the Museum) building stands. The original cost of the Institution Building was £23,100, and in order to provide the balance of £6,934, the Council have taken out with the same Insurance Company a policy for this amount at an annual cost of £66 3s. 7d.

The Council desire to emphasize that the work of the Institution, and the fulfilment of the objects for which it stands, must continue to depend for their progress on the financial support it receives from Members, and, on the Museum side, from paying visitors. The year 1928 has shown a remarkable increase in this support, but they would ask Members to do everything in their power to make the Institution better known in the Services and the Museum yet more popular with the general public.

JOURNAL.

It will be noticed that the JOURNAL has somewhat changed its appearance during the past year. The cover has been improved and a clearer form of printing has been adopted.

The Council fully appreciate the fact that the JOURNAL constitutes the main, if not the only benefit, derived from the Institution by a large percentage of Members, especially those serving abroad or afloat. Every effort is being made, therefore, to ensure that its contents shall be of real interest and value to officers who look to its pages to keep them in touch with current Service topics. That this policy is meeting with considerable success would seem to be proved not only by the fact that the Membership is again on the up grade, but also by the outside sales, which have increased in the past five years from £377 6s. 7d. in 1923, to £754 13s. 2d. in 1928. These figures represent the actual takings in their respective years. The figure shown in the Balance Sheet for 1928 is reduced owing to takings in respect of 1929 orders having been carried forward to that year. *Vide Finance Report.*

The fall in the receipts for advertisements is attributable to the necessity for a change of Agents, as mentioned in last year's Report, and the fact that the Institution will not receive the full benefit of the new and more advantageous agreement until 1929.

The standard of contributions offered for publication is well maintained, and there is a gratifying increase of articles submitted by officers of the Royal Air Force. Military writers are not lacking, but the Editor would welcome more Naval articles.

The Council desire to acknowledge their indebtedness to the Naval, General and Air Staffs for their assistance in compiling the professional Notes and the readiness with which approval is given whenever possible for the publication of articles written by serving officers.

The thanks of the Institution are due to the various lecturers and writers who have contributed to the JOURNAL and to the Admiral Commanding the Royal Naval War College and the Director and Commandants of the three Staff Colleges, for their assistance and support of our publication throughout the year.

LIBRARY.

The number of books added to the Library during the past year was 234.

They include a number of works presented by Vice-Admiral W. H. D. Boyle, C.B.

The total number of books now in the Library is 26,807 and 7,415 maps.

The utility of the Lending Library is shown by the fact that during the past year 4,819 books have been issued to members.

In conformity with the general policy of the Council, a section of the Library will, in future, be devoted to works relating to Air matters.

MUSEUM.

The past year has been one of exceptional activity in the Museum. As notified in the Secretary's Notes in the JOURNAL, the Council have adopted a policy whereby the Crypt shall, in future, be utilised chiefly for Special Exhibitions and for the display of models representing the latest developments in the Services. This they conceive to be essential if proper effect is to be given to the Institution's Charter for "the promotion and advancement of naval and military science."

This policy is no new departure, as a special committee appointed by the Council in 1891 recommended that the Museum "shall be as much a model room of the present as a show of historical antiquities and relics of the past." The report added "there are now in it objects which should give place, either permanently or temporarily, to others of real educational value." The Council came to the conclusion that the state of affairs discovered in 1891 had, to some extent, recurred, but while re-organising the Crypt they intend to preserve in every way the historic dignity and character of the Banqueting Hall and its contents.

Sir Archibald Hurd and Wing-Commander H. Wyllie, O.B.E., have joined the Museum Committee.

The general public have shown an unprecedented interest in the Museum during 1928. The total number to pass the turnstile during the year was 51,693, this being an increase of 14,388 on 1927, and of 22,236 on the previous year. The receipts for 1928 were the highest on record, and amounted to £2,023 2s. 0d., as compared with £1,427 12s. 6d. in 1927, and £1,127 18s. 6d. in the previous year.

The figures for 1928 also show an appreciable increase in the number of school children, who are admitted free in parties under the supervision of their teachers.

Special Exhibitions representative of all three Services have been held in the Crypt during the year. These included aeroplane models depicting a quarter of a century's development in flying, which were kindly lent by the Department of Overseas Trade and arranged by an officer from the Air Ministry.

Life-size figures representing the changes in Army uniforms, accoutrements and fire-arms in the course of some three hundred years, were lent by the Army Clothing Store and the Rotunda. The group also included two fine sets of armour shown by courtesy of Mr. H. Furmage.

A unique set of models of present-day ships of the Royal Navy was displayed during the latter months of the year. This Exhibition was only made possible through the co-operation of the Admiralty, the Commander-in-Chief of the Atlantic Fleet, and the Captains of H.M. Ships "Rodney," "Renown" and "Furious," and the Officer Commanding Minesweepers, who enabled models of those ships to be included. Other remarkably fine models were lent by Messrs. R. & W. Hawthorn Leslie & Co., and John I. Thornycroft & Co.

The Institution is further indebted to the Admiralty, and the Officer Commanding the Royal Naval College, Dartmouth, for lending an excellent set of models of aircraft used by the Fleet Air Arm. To these has been added a new model specially made by Messrs. Fairey of one of their latest aircraft; this has been kindly placed with us on permanent loan and will mark the first stage in a collection of models of war aircraft which it is hoped to make a regular feature in the future.

Steps are being taken to build up a permanent collection of models of the latest British warships, and another series illustrating the progress of mechanization in the Army. Contributions to the Museum Exhibits Purchase Fund for these purposes will be specially appreciated.

Her Majesty the Queen has again shown her interest in the Museum by two gracious gifts; an ivory card case with a carved representation of Napoleon's House at St. Helena on one side and his Tomb on the other, and a Napoleonic Inkstand and Penholder. The Council are indebted to generous donors for fifty-one other exhibits added during the year. These include:—Engraving of Wellington and Nelson, presented by Colonel H. H. Young; a pair of Gloves, handed to Bishop Juxon by King Charles I, when he was on the scaffold, presented by Miss C. M. Landor; a German Naval Ensign and Commodore's Pennant recovered from the battle cruiser "Moltke," presented by Hon. Surgeon-Commander J. D. Pollock, C.B.E., R.N.V.R.

ROYAL UNITED SERVICE INSTITUTION.
BALANCE SHEET, 31ST DECEMBER, 1928.

DR.

CR.

	£	s.	d.	£	s.	d.
TO ACCUMULATED FUND—						
Balance of Funds over Liabilities, as at 31st December, 1927	86,735	7	2			
Additions to Museum Exhibits, etc., catalogued during the year, per £544 3 0						
Less: Withdrawals, per contra	256	3	0			
Appreciation of Investments to Market Price, 31st December, 1928	189	10	1			
Revenue Account, Surplus of Income over expenditure for the year to date, per attached account	229	12	2			
SUBSCRIPTIONS, ETC., Paid in Advance				87,410	12	5
" SUNDAY CREDITORS				228	0	0
" MUSEUM EXHIBITS PURCHASE FUND				1,101	4	3
" LEASEHOLD REDEMPTION FUND				23	12	8
				3,303	18	1
By LEASEHOLD BUILDING—Whitehall, S.W.1, at Cost						
" FURNITURE, FIXTURES, FITTINGS, BOOKS, MAPS, CHARTS, etc. (as valued for Insurance at 31st December, 1926, plus additions)						
" MUSEUM EXHIBITS, etc.—(excluding Loan Collection covered by Insurance for £24,786 4s. 0d.)—As at 31st December, 1927				41,319	4	6
Additions catalogued during the year				544	3	0
				42,063	7	0
Debited: Withdrawals during the year				288	0	0
(NOTE: The Museum Exhibits are covered by Insurance for £42,551 19s. 0d.)						
" INVESTMENTS at Market Price, 31st Dec., 1928				1,707	9	3
8s. 0d. 5% War Loan, 1929-47				1,027	10	0
51,030 0s. 0d. 4% War Loan, 1929-47				5,024	11	1
56,693 19s. 0d. 4% Funding Loan, 1900-90				5,024	11	1
54,701 19s. 9d. 3% Conversion Loan				3,726	6	0
				12,485	16	10
LEASEHOLD REDEMPTION FUND—						
Premiums paid to date on Insurance Policies for £25,100 expiring October, 1972				3,266	3	7
Cash at Bankers				37	14	6
				3,303	18	1
" SUNDRY DEBTORS AND AMOUNTS PAID IN ADVANCE						
" CASH AT BANKERS AND IN HAND						
				1,082	6	2
				£92,067	7	11

CHARLES W. TROTTER, CHAIRMAN,
FINANCE COMMITTEE.

R. ALTHAM, SECRETARY.

TO MEMBERS OF THE ROYAL UNITED SERVICE INSTITUTION.

We have audited the above Balance Sheet dated 31st December, 1928, with the books and vouchers of the Institution, and have obtained all the information and explanations we have required. In our opinion, such Balance Sheet is properly drawn up so as to exhibit a true and correct view of the state of the Institution's affairs according to the best of our information and the explanations given to us and as shown by the books of the Institution.

Alderman's House
Bible House, London, E.C.2.
9th February, 1929.

BLACKBURNS, BARTON, MAYHEW & CO., Chartered Accountants.
Auditors.

DR.

REVENUE ACCOUNT FOR THE YEAR ENDED 31ST DECEMBER, 1928.

CR.

	£	s.	d.	£	s.	d.
To Salaries	2,066	12	10			
" Wages and National Insurance	1,982	3	1			
" Attendants' Clothing	122	5	0			
" Pensions	117	14	0			
Museum Repairs and Sundries	148	14	0	4,288	14	11
Purchase of Museum Pamphlets	18	0	3			
Journal Printing	1,574	8	2	159	14	3
Journal Postage	324	16	2			
Literary Services	324	18	0			
Shortland Notes	40	18	8	2,265	1	0
Library Purchases and Binding of Books	126	5	5			
Periodicals and Newspapers	50	4	8			
Advertising	37	14	0	176	10	1
Lecture Expenses	53	11	6	91	5	6
Ground Rent	580	0	0			
Water Rate	18	1	8			
General Rates	578	17	5			
Insurance	96	4	8			
Fuel	113	0	11	1,320	1	9
Lighting	203	6	0			
Repairs, etc., to Institution Building	328	17	3			
House Expenses and Sundries	99	15	9	744	10	11
Audit Fee, 1927	42	0	0	42	0	0
Legal Expenses	72	15	9	14	14	3
Postages, Telegrams, etc.	203	10	8			
Printing and Stationery	31	10	7			
Telephone				307	17	0
Balance Carried down	9,410	18	8			
	465	3	2			
	£9,876	1	10			
To Gold Medal for R.U.I. Prize Essay, 1927				13	17	6
" Special Accountancy and Legal Fee in connection with the above				221	13	6
" Balance being Surplus of Income over Expenditure for the year, carried to Balance Sheet				229	12	2
				£465	3	2

NINETY-EIGHTH ANNIVERSARY MEETING

vii

	£	s.	d.	£	s.	d.
By Members' Subscriptions Received				4,763	3	6
Voluntary Extra Subscriptions				19	6	6
Life Subscriptions				229	3	0
Entrance Fees				415	16	0
Admissions to Museum				2,023	2	2
Sale of Museum Catalogues and Pamphlets				80	2	2
Sales of Journal				651	0	0
Advertisements in Journal				116	10	6
Profit on Repairing Regimental Colours				23	3	9
Profit on Repairing Ship Models, etc.				13	7	0
Miscellaneous Receipts				3	8	0
Rent of Lecture Theatre, etc.						
Dividends and Interest Received				277	5	0
Government Grants				520	14	5
				750	0	0

By Balance Brought down	£9,876	1	10
	465	3	2
	£10,341	4	12

CHESNEY MEMORIAL MEDAL FUND

31st DECEMBER, 1928.

DR.	£	s.	d.	£	s.	d.	CR.
To Balance of Fund at 31st December, 1927—							
Cash at Bankers	61	1	7				
Investment at Market Price	186	0	0				
Dividends received less Tax				247	7	7	
" Appreciation of Investment to Market Price, 31st December, 1928				7	3	6	
				9	4	0	
	£263 15 1						
	263 15 1						
By Balance of Fund at 31st December, 1928—							
Cash at Bankers						68	5 1
Investment at Market Price							
£230 Bengal and North Western Railway							
34% Preference Stock						105	10 0
						263	15 1
	263 15 1						

We have audited the above Statement of the Chesney Memorial Medal Fund for the year ended 31st December, 1928, and certify the same to be correct.

Alderman's House,
Bishopsgate, London, E.C.2.
9th February, 1929.BLACKBURNS, BARTON, MAYHEW & CO., Chartered Accountants,
Auditors.

TRENCH GASCOIGNE PRIZE FUND

31st DECEMBER, 1928.

DR.	£	s.	d.	£	s.	d.	CR.
To Balance of Fund at 31st December, 1927—							
Cash at Bankers	30	0	5				
Investments at Market Price	1,204	9	8				
Dividends Received, Less Tax	44	13	8				
Ditto	5	0	0				
Appreciation of Investments to Market Prices, 31st December, 1928				49	13	8	
				1	10	0	
	£1,296 2 9						
	1,296 2 9						
By 1st Prize Essay, 1927						31	10 0
" 2nd Prize Essay, 1927						21	0 0
Balance of Fund at 31st December, 1928—							
Cash at Bankers						27	13 1
Investments at Market Prices—							
£1,862 London and North Eastern Rail-							
way 3% Debenture Stock						£1,103	4 8
£100 5% War Loan, 1929-47						102	15 0
						1,205	19 8
						1,233	12 9
	1,296 2 9						
	1,296 2 9						

We have audited the above Statement of the Trench Gascoigne Prize Fund for the year ended 31st December, 1928, and certify the same to be correct.

Alderman's House,
Bishopsgate, London, E.C.2.
9th February, 1929.BLACKBURNS, BARTON, MAYHEW & CO., Chartered Accountants,
Auditors.

BRACKENBURY MEMORIAL FUND

DR.				31st DECEMBER, 1928.				CR.					
				£	s.	d.	£	s.	d.				
To Balance of Fund at 31st December, 1927—							By Hugh Rees, Ltd.—Books and Maps				13	19	9
Cash at Bankers				18	1	10	" Librarian, Staff College—Books, Maps, etc.				2	18	9
Investment at Market Price ..				426	6	3	" Royal United Service Institution—Adminis-				1	1	0
							" Balance of Fund at 31st December, 1928—						
Dividends Received, Gross				444	8	1	Cash at Bankers				21	3	4
" Appreciation of Investment to Market Price,				21	1	0	Investment at Market Price—						
31st December, 1928 ..				6	6	4	£421 1s. 0d. 5% War Loan, 1920-47 ..				432	12	7
											453	15	11
											£471	15	5

We have audited the above Statement of the Brackenbury Memorial Fund for the year ended 31st December, 1928, and certify the same to be correct.

Alderman's House,
Bishopsgate, London E.C.2
21A February, 1929.

BLACKBURNS, BARTON, MAYHEW & CO., Chartered Accountants,
Auditors.

THE CHAIRMAN: My Lords and Gentlemen, the Annual Report for 1928 is in the hands of the members, and I have much pleasure in moving:—

“That the Reports and Accounts, as circulated, be taken as read and adopted.”

In moving the resolution, there are only a few points to which I wish to refer. In the first place, we all deeply lament the death, and the great loss that has thereby been suffered by the Institution, of Earl Haig, one of our Vice-Presidents.

The membership of the Institution has been very well maintained during the past year, but all members are asked to do their best to swell our numbers by making the Institution more known, and by emphasising the facilities it provides.

There is a tendency nowadays for the fighting Services to be reduced, and it is important, therefore, to enrol as high a proportion as possible of junior officers from all three Services. At a later stage of the proceedings the Meeting will be asked to pass a new Bye-Law offering specially favourable facilities to young officers.

Financially the position of the Institution is now very sound. The Revenue Account for 1928 is the most satisfactory one we have had for many years past.

The Chairman of the Finance Committee will deal with the Accounts in more detail, and I now have pleasure in asking him to do so.

FINANCE.

COLONEL C. W. TROTTER, C.B., T.D. (Chairman of the Finance Committee): Mr. Chairman, My Lords and Gentlemen, I have much pleasure in seconding the motion “That the Report and Accounts, as circulated, be taken as read and adopted.” As the Chairman has said, the finances are in a very satisfactory condition. You will notice that we have not had to sell any of our investments constituting the Reserve Fund, and you will see from the Accounts that that Reserve Fund is invested in very high class securities. The only investment that may produce less interest in the future is the comparatively small amount of 5 per cent. War Loan that we hold, just over £1,000. If and when the finances of the country allow the War Loan to be paid off we may then lose a little interest. One rather important matter which has been dealt with during the past year is the Leasehold Redemption Fund. The Council have sold the stocks which had been set apart for this purpose and purchased a terminal sum due in 1972, when our lease terminates. We have also to pay premiums on the sum of £6,934, which will cost us £66 3s. 7d. a year in order to make up the sum of £23,100, which this building cost to build. I am not referring to the Banqueting Hall and the Crypt, but to the Institution building which belongs to us.

I think those are all the points that are of importance in regard to the financial position. As our Chairman said, we depend very much on new members for our income, and as long as we can keep our income up to our expenditure we shall be in as good a position as we are in now.

JOURNAL, LIBRARY AND MUSEUM.

THE CHAIRMAN: Unfortunately, the Chairmen of both the Library and of the Museum Committees are absent to-day owing to private affairs and illness. If any member has any questions to ask on the reports of the Journal, the Library or the Museum the Secretary and Editor or the Librarian will be prepared to answer them.

As nobody desires to ask any questions, I will put the resolution: "That the Report and Accounts, as circulated, be taken as read and adopted."

The resolution was then put and carried unanimously.

NEW BYE-LAW GOVERNING ADMISSION OF JUNIOR OFFICERS.

ADMIRAL SIR GEORGE P. W. HOPE, K.C.B., K.C.M.G.: Mr. Chairman, My Lords and Gentlemen, I have much pleasure in moving:—

"That the new Bye-Law governing the admission of Junior Officers, as posted in the Reading Room, be adopted."

The object of the proposal is, obviously, to try and induce young officers to join the Institution earlier than they normally do. It has been represented to the Council that young officers are not inclined to join this Institution on account of having to pay an entrance fee as well as the annual subscription when they are elected. They have to put down £3 5s. od., and they do not feel inclined to do so. On the other hand, if they do not join when they are very young, we find that they do not join us until they are about twenty-nine or thirty years' of age. If we can induce them to join at an early age and pay a subscription of £1 5s. od. a year for the ten years when they would normally not be members, the Institution will undoubtedly score. It will, of course, lose the entrance fee, but it will get these additional annual subscriptions. That is perhaps rather a mercenary way of looking at the matter. The real object of the resolution is to try and get the young officers to join the Institution at as early a date as possible for their own good, for the good of the Institution and for the good of the country. I have much pleasure in moving the resolution.

BRIGADIER-GENERAL A. E. J. CAVENDISH, C.M.G.: I beg to second the motion, and in doing so to say that I thoroughly agree with what the Admiral has said.

The resolution was then put and carried unanimously.

¹ See Secretary's Notes of this Journal.

RE-ELECTION OF AUDITORS.

CAPTAIN M. B. BIRKETT, D.S.O., R.N.: I have very much pleasure in proposing:—

"That Messrs. Blackburns, Barton, Mayhew & Co., be re-elected Auditors for the ensuing year at a fee of fifty guineas."

VICE-ADMIRAL SIR H. W. RICHMOND, K.C.B.: I have much pleasure in seconding that.

The resolution was then put and carried unanimously.

VACANCIES ON THE COUNCIL.

THE CHAIRMAN announced that the undermentioned Officers had been nominated as Candidates for the vacancies on the Council :—

ROYAL MARINES (1 vacancy).

Brigadier A. G. Little, C.M.G., R.M.

ROYAL NAVAL VOLUNTEER RESERVE (1 vacancy).

Captain The Earl Howe, C.B.E., V.D., R.N.V.R.

REGULAR ARMY (1 vacancy).

Major-General Sir J. E. Capper, K.C.B., R.E.

TERRITORIAL ARMY (1 vacancy).

Colonel A. S. Bates, D.S.O., T.D.

THE CHAIRMAN : Are those Officers accepted by the Meeting ?

The nominations were agreed to, and the above Officers were accordingly elected.

THE GOLD MEDAL ESSAYS, 1928.

THE SECRETARY read the following Report of the Referees :—

"The Referees nominated to adjudicate on the Essays submitted for the Royal United Service Institution Gold Medal of 1928 are of opinion that the first place should be awarded to No. 4 : "Spero Meliora."

They do not, however, consider that this Essay is up to the standard which merits the award of the Medal.

They bracket Nos. 1 and 5 : "Let the Sword be Sharpened with Wisdom" and "Fairly Alongside" for the second place, but do not consider that either of these essays merits publication.

(Signed) C. W. GWYNN, Major-General.

E. A. ASTLEY-RUSHTON, Rear-Admiral.

E. R. LUDLOW-HEWITT, Air Commodore."

THE SECRETARY then opened the sealed envelopes and announced that the writer of Essay "Spero Meliora" was Lieutenant-Commander J. D. Prentice, R.N., Royal Naval Staff College, Greenwich ; that the writer of the Essay "Let the Sword be Sharpened with Wisdom" was Commander R. D. Binney, R.N., United Services Club, Pall Mall, London ; and that the writer of the Essay "Fairly Alongside" was Captain R. W. Oldham, R.N.

REAR-ADMIRAL B. E. DOMVILLE, C.B., C.M.G. : Mr. Chairman, My Lords and Gentlemen, I have much pleasure in moving :—

"That the thanks of the Institution be accorded to Rear-Admiral E. Astley-Rushton, C.M.G., Major-General C. W. Gwynn, C.B., C.M.G., D.S.O., and Air-Commodore E. R. Ludlow-Hewitt, C.M.G., D.S.O., M.C., for adjudicating on the Prize Essays."

It is generally realised what a great deal of work looking through these Essays entails, and that the judges are well entitled to the thanks of the Institution for their services.

MAJOR-GENERAL C. BONHAM-CARTER, C.B., C.M.G., D.S.O.: I have much pleasure in seconding the resolution.

The resolution was then put and carried unanimously.

PRESENTATION OF CHESNEY MEDALS FOR 1926 & 1927.

THE CHAIRMAN then, amid hearty applause, presented the Chesney Medal for 1926 to Vice-Admiral Sir H. W. Richmond, K.C.B., for his book "The War of 1739-48"; and that for 1927 to Brigadier-General Sir J. E. Edmonds, C.B., C.M.G., for his work in writing the "Official History of the War, Military Operations."

VOTE OF THANKS TO THE CHAIRMAN.

ADMIRAL SIR W. E. GOODENOUGH, K.C.B., M.V.O.: My Lords and Gentlemen, the resolution which stands in my name: "That the thanks of the Institution be accorded to the retiring Chairman," is one that comes from the whole Institution, and I am the spokesman of all the members in this matter. We do not use conventional expressions, my Lord, in this Institution, and I am sure you realise that the thanks that we ask you to accept from us are very sincere.

You brought to us a ripe experience not only as a military commander but as an administrator for many years, in a position of great difficulty, and both as a Council and as an Institution we have very greatly benefited by your Chairmanship. On behalf of the Council particularly I would ask you to accept our thanks for the consideration that you have always given to those who wished to put forward views on any subject, and the sympathy which you have always extended to them. There may not have been any very marked events during the time of your Chairmanship, but the influx of younger officers and the sign that the Institution is appealing to the rising generation is one which is very much to be welcomed and on which we wish cordially to congratulate you.

We do not forget that you were our Vice-Chairman for a year, and that therefore we have two years of work on the Council to thank you for. Now, Sir, you are leaving us and you are to be succeeded by another officer, but we hope that you, as one of our Vice-Presidents, will long continue to associate yourself with us for the benefit of the work of the Council and the interests of the Institution. (Cheers).

COLONEL THE LORD AMPHILL, G.C.S.I., G.C.I.E.: My Lords and Gentlemen, I have very much pleasure in seconding the resolution, and in doing so heartily to endorse all that the Admiral has said. Our gratitude to Lord Allenby is based not so much on his discharge of the duties of Chairmanship, which I may tell you are exceedingly light in an assemblage which is essentially orderly and devoted to discipline, but on the fact that he has added lustre to the long roll of Chairmen of this Institution. He succeeds

nearly 100 distinguished officers of the Navy and Army who have held that office, and his name has added distinction not only to the office of Chairman but also to the name of this Institution. It is on that account, Lord Allenby, that we are all most grateful to you for what you have done. (Cheers).

The resolution was put to the Meeting by Lord Amptill and carried with acclamation.

THE CHAIRMAN, who was received with cheers, said: Sir William Goodenough, Lord Amptill, My Lords and Gentlemen, I am afraid I can only very inadequately express to you my gratitude for the great honour you have conferred upon me by thanking me in such flattering terms for the very easy task that I have performed in carrying out the duties of the Chairmanship of the Council of the Institution during the past year. Although it is an easy post I assure you that I felt it a very high honour to be appointed to it, and it has been a source of very great pleasure to me.

I should like to express my gratitude to my fellow Members of the Council for their help, their guidance and their kindness to me all the time I have occupied the position, and may I also include in that expression of gratitude the Secretary, who has given me the best possible advice and kept me on the right path. My Lords and Gentlemen, I thank you.

The Meeting then terminated.

THE SOCIETY FOR NAUTICAL RESEARCH

(FOUNDED IN 1910).

Patron:

H.R.H. PRINCE GEORGE, K.G., G.C.V.O.

President:

**Admiral of the Fleet EARL BEATTY, P.C., G.C.B., O.M.,
G.C.V.O., D.S.O., D.C.L.(Oxon.), LL.D.**

THE OBJECTS OF THE SOCIETY:

(1) To encourage the study of nautical and naval antiquities; including the dress and equipment of seamen in all ages and races, and the build of ships, both men-of-war and merchantmen.

(2) To compile a reliable Sea Dictionary or Sailor's Word-Book, and, with that end in view, to collect information which will explain obscure words and phrases, together with the customs, usages and folk-lore that gave rise to them.

(3) To pave the way to the establishment of a National Maritime Museum, such as those which already exist in countries less renowned than Britain for connection with the sea.

The Society has raised £100,000 to save Nelson's Flagship and has undertaken to restore H.M.S. *Victory* to the exact appearance which she wore at Trafalgar.

The Society issues once a quarter an illustrated journal of one hundred pages devoted to the study of nautical archaeology in all its branches.

The subscription of *One Guinea* entitles all who join the Society to one copy of all its Reports and quarterly journals.

For particulars of membership apply to the Honorary Secretary,

PROFESSOR GEOFFREY CALLENDER, F.S.A.,

R.N. College, Greenwich.

Cars for special occasions

SLOANE 3456

Superb 6-seater Daimlers
with liveried chauffeurs
always available.

**Daimler
Hire Ltd**

243, KNIGHTSBRIDGE,
LONDON, S.W.7.

SLOANE 3456

RUSSIAN SCHOOLMASTER

Coaches for Russian Exams. :
Army Interpretorship and Civil Service.

T. ROMANOFF,
30, Culmington Road, Ealing, W. 13.

GREAT BRITAIN'S GREATEST HYDRO.

SMEDLEY'S
Hydropathic Establishment
MATLOCK

Established 1853. Without superior for Comfort
Pleasure and Health-Restoring Equipment.
*Phone: Matlock 17. *Grams: Smedleys, Matlock
WRITE FOR ILLUSTRATED PROSPECTUS

FOR LATEST BOOKS ON THE
TRAINING OF HORSES
POLO PONIES
DANGEROUS HORSES, Etc., Etc.

Write for Syllabus:—
GALE & POLDEN, LTD.
2, Amen Corner, London, E.C. 4



REMEMBER Two Steeples No.83

quality when you want a
good pair of socks.

FROM ALL HOSIERS

ROYAL HOTEL WINCHESTER

Leading Family Hotel. Central but quiet.
Overlooking own large attractive Garden.
Central Heating. Telephone 31.

"THE MARINER'S MIRROR,"

The Quarterly Journal of the
SOCIETY OF NAUTICAL RESEARCH.

CAMBRIDGE UNIVERSITY PRESS,
Fetter Lane, London, E.C. 4

Land's End— Sennen Cove Hotel

Telephone: Sennen 5

A quiet and thoroughly comfortable Private Hotel. Magnificent sea view, beautiful sand, safe bathing, large lounge (70 ft.), also dining room (70 ft.), splendid fishing, lovely walks, perfect table supply, excellent cuisine, farm produce.

From 3 Guineas, Special Winter Terms.

Under entirely new management.

R.A.C.
Lock-up Garages

Mrs. A. C. BLAMPIED, Resident Proprietress
(Late of St. Helier Hotel, Jersey)

BOOKS

Hugh Rees

LTD.

MILITARY AND NAVAL
BOOKSELLERS, STATION-
ERS AND PUBLISHERS.

5 & 7, REGENT STREET, S.W.1

MILITARY AND NAVAL BOOKS
OF ALL DESCRIPTIONS ARE
KEPT IN STOCK AND CAN BE
SUPPLIED WITHOUT DELAY.

MEMORIALS

in
Cast Bronze · Repousse-
Metal · Carved & Engraved
Brass · Marble · Stone & Wood

J. WIPPELL & CO. LTD

EXETER · High St. & Cathedral Yard
LONDON · 4 & 5 Duncannon St. Charing X
MANCHESTER · 52 Victoria Street

Recommended by the Medical Faculty.

SYMONS' GOLD MEDAL CYDER

Samples and prices on application to

Jno. Symons & Co., Ltd. Apple Mills,
TOTNES, DEVON.

London Office and Stores - - Butcher Row, Ratcliff, E. 14

**ROYAL SCHOOL
FOR DAUGHTERS OF OFFICERS
OF THE ARMY
LANDSDOWN, BATH**

INSTITUTED A.D. 1864.

PATRONS:

HIS MAJESTY THE KING.
HER MAJESTY THE QUEEN.

Presidents:

FIELD-MARSHAL H.R.H. THE DUKE OF
CONNAUGHT, K.G., &c.

Trustees:

SIR J. A. MULLENS, KT.
COL. A. G. CHURCHILL, C.B., C.B.E.
BRIG. GEN. SIR R. C. A. B. BEWICKE COPLEY,
K.B.E., C.B.

Chairman:

COL. A. G. CHURCHILL, C.B., C.B.E.

Vice-Chairman:

MAJOR E. K. RIDLEY.

EXTRACTS FROM RULES, ETC.

The Daughters of Officers who are serving, or who have served, in His Majesty's Army, or in the Royal Marines, are eligible for admission, at rates of £20 and £90 to £150 per annum; paying according to the circumstances of the parents. Those paying £20 per annum (one-third of the School) are admitted by the Votes of Subscribers only—the remainder by the Committee. The age for admission is from 10 to 15 years.

Each contributor of £5 5s. is entitled to one life vote, and each annual subscriber to one vote at two elections for each 10s. 6d. subscribed.

Further information can be obtained of the Secretary, Miss N. M. BAYLY, at the Office, Pantou House, 25, Haymarket, S.W.1.

LEGACIES

bestowed on the

Salvation Army

constitute investments in the name of humanity yielding a high annual return in service to men and women of all grades

£500,000 a year is required for maintenance of over 16,223 centres of work

FUNDS

may be earmarked for any Branch, such as General Evangelical Work, Child Welfare Work, Homes for Boys and Girls in difficult circumstances, Medical and Educational Work in Eastern Countries, Rescue Work, Missionary Work, Work amongst Lepers.

**HELP BY LEGACY
IS EARNESTLY SOLICITED**

Legacy Forms, etc., on application.

Contributions or enquiries to
101, Queen Victoria Street, E.C.4

NOW READY.



THE
**CAVALRY
JOURNAL**



Published under the authority of the Army Council, under the direction of Field-Marshal the Viscount ALLENBY, G.C.B., etc. (Colonel Life Guards and 16th/5th Lancers), assisted by Lieut.-General Sir R. S. S. BADEN-POWELL, Bt., G.C.B., G.C.V.O., etc. (Colonel 13th/18th Hussars), Lieut.-General Sir P. W. CHETWODE, Bt., K.C.B., K.C.M.G., D.S.O., Colonel A. E. W. HARMAN, C.B., D.S.O., A.D.C., Lieut.-Colonel Sir A. LEETHAM, Knt., K.C.V.O., etc., and Major-General T. T. PITMAN, C.B., C.M.G. (Managing Editor).

PUBLISHED QUARTERLY.

Price 5s. net.

No. 72. APRIL 1929

CONTENTS.

Liverpool Grand Steeplechase, 1839.
The Grand National.
The Future of Cavalry.
Seydlitz. Part II.
The Horse as a National Economic Factor.
Some Generals I have never known.
"Shaitan," the Boar.
The Metropolitan Mounted Police Part II.
"The Lobster Pots."
Cavalry Operations on the Russo-German Border.
Across Country—Hunting To-day in the Shires.
The Locomotive Chase in Georgia, 1862.
Is the Troop an Economical Division of the Sabre Squadron.
The late Lieut.-Gen. Sir M. F. Rimington, K.B.C., C.V.O.
Jonathan's Answer.
Amazons—Mythology and Reality.
"Bobhajee."
"Cavalry v. Warships."
Correspondence.
Editor's Notes.
Regimental Items of Interest.
Home and Dominion Magazines.
Foreign Magazines.
Recent Publications.
Sporting Notes.

ALL SUBSCRIPTIONS should be sent to, and all copies obtained direct from,

**The Royal United Service Institution,
Whitehall, London, S.W.1**

Registered for Transmission to Canada by Canadian Magazine Post.

